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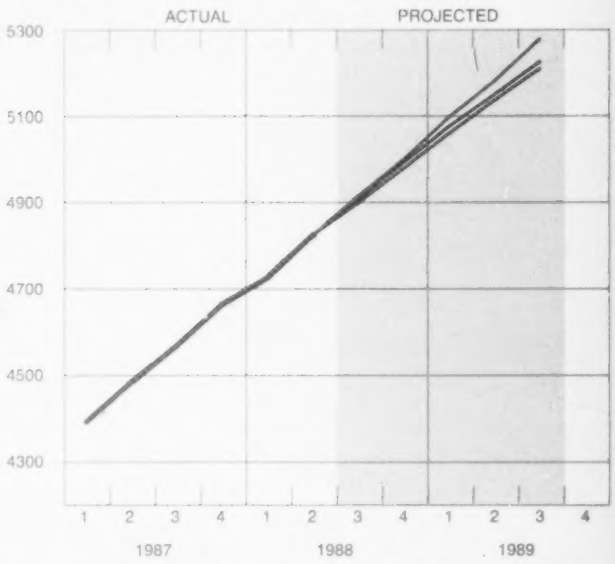

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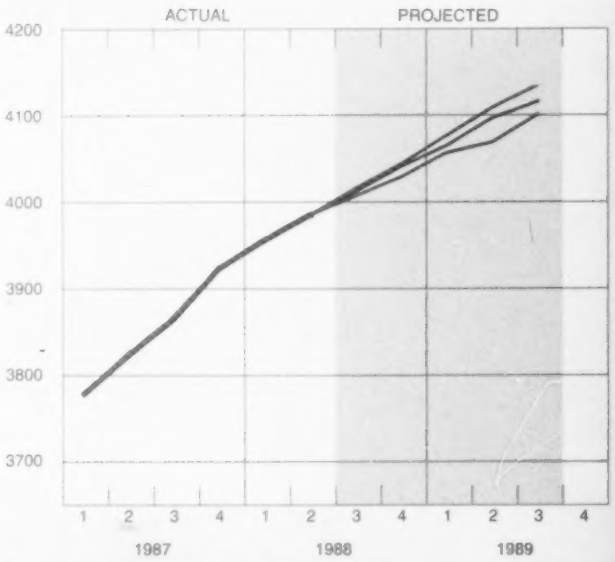

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Candidate Appeal in the 1988 Presidential Campaign

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Introduction

Midway through the 1988 presidential campaign, it looks like there will be a close contest all the way to election day. At this writing (early in October) George Bush has lost some of the lead which he has held since late August, but he seems to hold a strategic edge along a number of dimensions as we enter the last six weeks of the campaign.

For a variety of reasons, this campaign has been structured by the candidates as a choice between ensuring continuity and managing change. Because this is the first election since 1968 in which an incumbent has not been running, there is an inevitable sense of change in knowing that a new man will occupy the White House in 1989. The fact that George Bush is the sitting vice-president from an administration headed by a personally popular incumbent and under which many Americans have prospered economically means that he would inevitably campaign on the basis of maintaining similarly successful policies. With Michael Dukakis representing the party out of power, he must inevitably argue about the need for change and demonstrate how he will bring it about. And increasing external economic pressures must also be dealt with by whoever is inaugurated on January 20th.

In surveys conducted in the last several months, the public has vacillated in its satisfaction with the way things are going in the United States these days, with large numbers expressing both optimistic and pessimistic views. In the latest measure, the balance has tilted toward satisfaction with the way things are going, giving a boost to Bush. This happens at the same time that both personal and national economic expectations have become somewhat more optimistic, and favorable evaluations of Ronald Reagan have increased as well. Furthermore, the Bush strategists have been very successful in restructuring the public's image of Michael Dukakis, painting him as very liberal and outside the mainstream of contemporary American political and social values.

For Dukakis, on the other hand, the public clearly distinguishes him from Bush as a candidate who cares about them. And he is seen as better able to deal with a variety of social issues that fall under the heading of what is known as a "compassionate" role for government. He has attempted to focus scrutiny on Bush's role in the Iran-Contra affair and on dealings with General Noriega in Panama, as examples of both failed Reagan administration policies and poor judgment displayed by Bush. Substantial public doubt exists about the competence of Senator Dan Quayle to serve as president, if necessary, and this could be a deciding factor in a very close race.

All of these factors are discussed below in terms of the results of recent surveys conducted by the Gallup Organization under the sponsorship of the Times Mirror Company. In particular, shifts in public perceptions of the candidates between May and September, as well as concerns about various issues, form the basis for these conclusions about the nature of the race.

Evaluations of the Candidates

Favorable vs. Unfavorable Ratings. One major change since the spring is that voters now have a more positive opinion of George Bush than at any other time since he announced his candidacy. In the September survey, 59 percent gave Bush a favorable rating while 37 percent rated him unfavorably (see Table 1). Looking at the trend line in these evaluations, it is clear that Bush has been able to hold on to the boost in public favorability that he achieved at the time of the Republican convention. In contrast, Michael Dukakis was not only unable to maintain his post-convention lift in personal popularity; but he also experienced a precipitous decline in favorability in the first two weeks of September under a series of withering attacks from the Bush campaign. As a result, more voters now have an unfavorable opinion of Dukakis (42 percent) than feel that way about Bush (37 percent).

These surveys have also consistently shown that George Bush's favorability ratings have closely tracked with Ronald Reagan's. In a related measure, the September Gallup Poll found 57 percent approving of the president's job performance (see Table 2). Since the May Summit, Reagan's approval rating has consistently been in the mid-

TABLE 1. Trend in Favorability Ratings of Bush and Dukakis

Survey Date	Favorability Rating (Percent)		Difference (Percentage Points)
	Bush	Dukakis	
April/May, 1987	68	—	—
May 13–22, 1988	50	68	−18
June 10–12, 1988*	53	70	−17
July 8–10, 1988*	52	57	−5
August 18–19, 1988†	60	55	5
August 24–25, 1988	65	59	6
September 9–14, 1988	59	51	8

*Source: Gallup/Conus

†Source: *Newsweek*

*The author is currently at the Gallup Organization while on leave from the Center for Political Studies.

TABLE 2. Trend in Ronald Reagan's Approval Rating (Percent of Registered Voters)

Survey Date (1988)	Approve	Disapprove	Don't Know
January 22–24	47	36	17
March 10–12	52	39	9
May 13–15	46	42	12
June 10–12	55	38	7
June 24–26	54	37	9
July 8–10	56	39	5
August 5–7	52	40	8
August 19–21	60	35	5
September 9–11	57	36	7

Sample size ranged from 1000 to 1211 for the various surveys.

fifties, and it peaked at 60 percent after the Republican convention.

Personal Image. As the campaign has progressed, the voters have developed fuller images of each candidate. However, George Bush has been able to improve his image more substantially than has Michael Dukakis, while at the same time he has successfully altered the public's image of his Democratic opponent. In earlier *Times Mirror* surveys, the less well known Dukakis was more positively evaluated on a variety of dimensions than was Bush. Today neither candidate has a clear advantage in how he is perceived by the public.

This conclusion is based upon an analysis of responses to a question in which respondents were asked to indicate whether or not they felt each of eight personal traits applied to George Bush and Michael Dukakis. For six of the eight, a majority indicated they applied to Bush (see Table 3). At the top of the list, just as it has been for some time, is "has the record and experience for the job of president" (75 percent). Bush has consistently enjoyed an advantage over Dukakis as a result of his service as vice-president, and this is also reflected in the item "appears presidential" (64 percent). About as many respondents feel he is "steady and dependable" (68 percent).

For six of the eight issues, a majority also feel they apply to Michael Dukakis. He has consistently been rated highly on the items "strong and forceful" (58 percent) and "concerned about the needs of people like me" (66 percent). He also receives high ratings for "steady and dependable" (63 percent) and "can get things done" (62 percent).

Comparatively, there have been two significant shifts in the electorate's relative assessments of George Bush and Michael Dukakis since the end of the conventions. The first is that Bush is now as likely as Dukakis to be seen as an agent of change, 45 percent compared to 46 percent respectively. And while Dukakis remains the more likely candidate to be seen by respondents as "concerned about the needs of people like me," the gap between the two has narrowed significantly, to a 66 percent to 53 percent advantage. Dukakis remains more likely to be seen as "strong and forceful," by a 58 percent to 43 percent margin, and he has closed the gap in terms of convincing the public that he has the ability to serve as president.

The Mood of the Electorate

George Bush's resurgence coincides with a generally more positive mood in the American electorate. This optimism can be credited to a shift to increasingly positive evaluations of the Reagan administration, and Bush has been successful in linking himself to them — especially economic prosperity. In turn, the balance in the public's mood has now tipped slightly in the direction of continuity and away from change. This has both hurt the Dukakis campaign strategy and strengthened the Bush position.

The American electorate remains optimistic about economic concerns — including both personal economic expectations and prospects for the national economy. While there is somewhat greater concern about how the economy will look one year from now compared to five years from now, most of those surveyed expect to be at least as well off in the future as they are now.

The major change since earlier in the year is that Americans are now more likely to be satisfied with the way things are going in the country than dissatisfied. Both of these factors are working to diminish the electorate's appetite for change and to increase its interest in continuing important elements of what are perceived to be the successes of the Reagan administration.

TABLE 3. Candidate Image (Percent Mentioning that Each Item Applies)

Image Factor	George Bush	Michael Dukakis
Has the record and experience for the job of president	75	40
Is steady and dependable	68	63
Appears presidential	64	53
Will be careful in the way he brings about the changes the country needs	62	57
Can get things done	57	62
Concerned about the needs of people like me	53	66
Can bring about the changes the country needs	45	46
Is strong and forceful	43	58

Sample size was 2001 registered voters.

The question was: I am going to read you a list of phrases to get your views about George Bush. As I read each phrase, please tell me whether or not you feel it applies to Bush.... And what about Michael Dukakis?

Satisfaction with the Way Things Are Going. The most significant change in the national mood since last May's survey is that more Americans (50 percent) are now satisfied with the way things are going in the country than are dissatisfied (45 percent). Only four months ago, there were more Americans dissatisfied than satisfied (55 percent to 40 percent). The latest reading represents a second important reversal of a trend line for the Reagan administration. By the end of his first term, Reagan was able to overcome concerns about the state of the nation which he had inherited from the Carter administration. Americans then remained optimistic until the time of the Iran-Contra disclosures, when their confidence in the Reagan administration was shaken by the questions raised about who was in control in the White House and the manner in which foreign policy decisions were being made. The latest survey shows that on balance a slim majority of Americans are satisfied.

Outlook for One's Personal Financial Situation. Americans are as optimistic about their personal economic prospects for the next year as they were in May, and more so than they were in January. Just over half (54 percent) expect to be better off financially a year from now, while only one in seven (14 percent) expects to be worse off; 29 percent volunteer that they expect no change. In January, only 44 percent expected to be better off one year from then.

In the May survey, satisfaction with the way things are going was a more significant predictor of support for George Bush than the respondents' expectations for their personal financial situation one year from now. In this survey, that relationship is even stronger. The major difference from May is that there are now more people who are satisfied than dissatisfied, while the reverse was true then.

Among those who are satisfied with the way things are going now, Bush is preferred by 73 percent of those who expect to be better off in one year, 77 percent of those who expect to be the same, and 58 percent of those who expect to be worse off. Among those who are dissatisfied, Bush is preferred by 26 percent of those who expect to be better off, 22 percent of those who expect to be the same, and 29 percent of those who expect to be worse off.

Outlook for the Country's Economic Situation. Americans remain reserved about the prospects for the nation's economy in the next year, but they are bullish on the long term. Compared to last January (26 percent) and May (20 percent), voters in the latest survey are less likely (16 percent) to expect economic conditions to be worse in one year. Thinking about the national economic conditions five years from now, over two in five (44 percent) expect them to be better and only about one in five (19 percent) expects them to be worse.

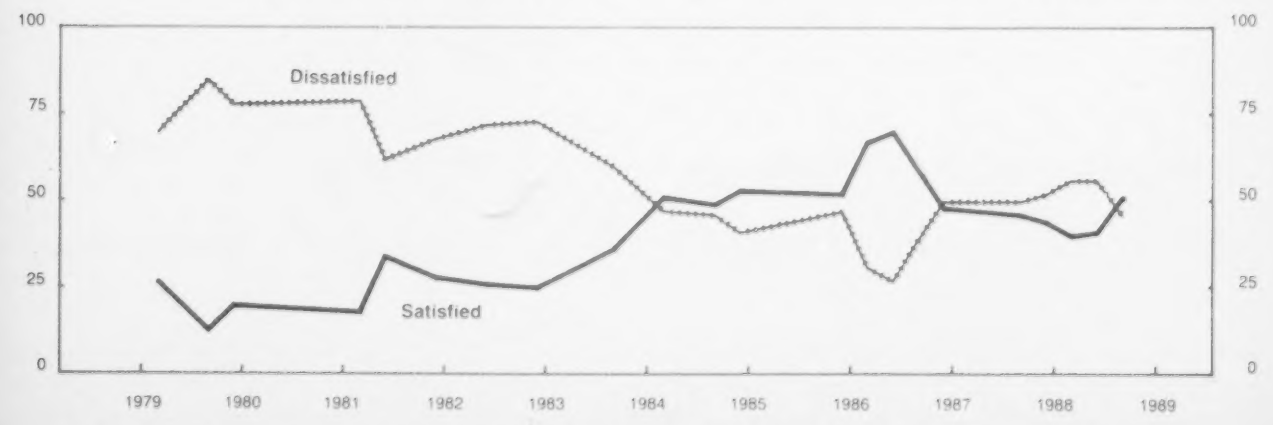
While there is no difference in the proportion of Democrats and Republicans who expect to be better off one year from now, Democrats are twice as likely to expect to be worse off than Republicans (19 percent compared to 9 percent). Independents are less optimistic than partisans.

Campaign Issues

The Significance of the Vice-Presidential Candidates. In a *Times Mirror* survey conducted after the Republican convention, the electorate evaluated Lloyd Bentsen much more favorably than Dan Quayle on two counts. Bentsen was more likely to be seen as qualified to serve as president if necessary. And his choice increased the likelihood of support for Dukakis, while Quayle's selection decreased the likelihood of support for Bush.

In later surveys, evaluations of Quayle have been even less positive than they were following the convention. Only one-third of the American public feel Quayle is qualified to serve as president if necessary (34 percent), compared to four in ten (41 percent) who felt that way three weeks earlier. Respondents with the highest levels of education and

Changes in Public Mood, Carter to Reagan Administration (1979-1988)



The question was: In general, are you satisfied or dissatisfied with the way things are going in the U.S. at this time?

those who are most likely to follow public affairs are the most likely to think that Quayle is not qualified to serve as president. While there are partisan differences in the assessments of Quayle, only bare majorities of Republicans believe he is qualified. On the other hand, a clear majority of voters feel that Lloyd Bentsen is qualified to serve as president if necessary.

Two out of three respondents indicate that the choice of the running mates doesn't make much difference in their presidential choice. But by a three to one margin (27 percent to 8 percent) voters say that the choice of Quayle makes them less likely, rather than more likely, to vote for Bush, while the choice of Bentsen makes them more likely to support Dukakis (25 percent to 9 percent).

Two surveys conducted after the debate between the vice-presidential candidates, by ABC News/*The Washington Post* and CBS News/*The New York Times*, showed that a majority felt that Lloyd Bentsen got the better of the contest and about one-quarter felt that Dan Quayle did. While there were no "fatal gaffes" by either candidate, the Dukakis campaign had commercials prepared to air immediately afterwards that question Quayle's qualifications and competence. This will be an enduring theme for the remainder of the campaign.

The Role of Ideology in the Campaign. While Michael Dukakis has declared that this campaign is about competence and not ideology, George Bush has set about the task of portraying his opponent as too liberal for the American electorate. Bush has clearly been more successful here, as successive surveys show that increased proportions of the public perceive Dukakis to be a liberal and out of sync with the mainstream of their ideological leanings (see Table 4). At the present time, more Americans rate Michael Dukakis as a liberal (46 percent) than perceived Walter Mondale in this fashion (39 percent) at the equivalent point in the 1984 presidential campaign.

The problem for Dukakis is that the American electorate has traditionally described itself as moderate to conservative. In the September survey, one-quarter of the respondents (27 percent) placed themselves at the "conservative" end of a scale and one-fifth (21 percent) at the "liberal" end, while 46 percent placed themselves in the middle. When asked to place Dukakis on the same scale, 46 percent classified him as "liberal" and only 9 percent as "conservative"; an additional one-third (35 percent) placed him in the middle, and 10 percent said they could not place him. For Bush, on the other hand, 47 percent placed him at the "conservative" end and only 9 percent at the "liberal" end. Nine percent did not know where to place him.

TABLE 4. Political Ideology as Reported in May and September 1988 (Percentage Distribution)

	George Bush		Michael Dukakis		Self	
Category	May	Sept.	May	Sept.	May	Sept.
Liberal	16	9	31	46	18	21
Moderate	29	35	39	35	56	46
Conservative	37	47	10	9	18	27
Don't know	18	9	20	10	8	6

Sample size was 1204 for the May survey and 2001 for the September survey.

The question was: If "6" represents someone who is very liberal in politics and "1" represents someone who is very conservative, where on this scale of 6 to 1 would you rate each of the presidential candidates and yourself? First, where would you place George Bush? Where would you place Michael Dukakis? Where would you place yourself?

Allowing for a tendency of partisans to see their own candidate in less extreme ideological terms and the opposition party's candidate in somewhat more extreme ideological terms, there is a great deal of consistency in the public perceptions of the ideological positions of the two candidates. The significance of ideology is the relationship between perceptions of where the candidates are in relation to how the voters see themselves. While half the respondents (48 percent) see themselves as more conservative than Dukakis (including 35 percent who see themselves as much more conservative), it is also true that four in ten (42 percent) see themselves as more liberal than Bush (including 24 percent who see themselves as much more liberal). These relative perceptions are important explanations of both candidate support among partisans and defection among those who identify with the other party.

The Role of Issues in the Campaign. On the issues about which the public is most interested in hearing more, their assessments of which candidate could best address them is almost evenly divided. And those voter groups which the survey identifies as most volatile are among those most interested in hearing more discussion. This indicates considerable potential for the candidates to add to their current coalition by addressing these interests.

When offered a list of specific issues, at least three out of four indicated they had not heard enough discussion and wanted more (see Table 5). In one area — dealing with Soviet Premier Gorbachev — almost as many say they have heard enough as say they want to hear more. The relative lack of significance of this issue is of course a tribute to the Reagan administration's improved relations with the Soviet Union and a result of the atmosphere of relative calm in these relations since last May's Summit Meeting.

Leading the list of concerns about which the public would like to hear more are five important domestic issues — improving the quality of education in the public schools (85 percent), providing a decent standard of living for the elderly (85 percent), creating good economic conditions for people like me (83 percent), dealing with the drug problem (80 percent), and dealing with crime (79 percent). For the first three issues, both candidates have described specific programs and policies which the public is currently evaluating.

On the drug issue, Dukakis has put Bush somewhat on the defensive because of his attacks on Reagan administration policies in this area. On the crime issue, Bush has put Dukakis on the defensive because of references to the Massachusetts furlough program for convicted criminals.

TABLE 5. Relative Ranking of Issues Which the Public Wants Discussed More

Issue	Percent Wanting More Discussion
Improving the quality of education in the public schools	85
Providing a decent standard of living for the elderly	85
Creating good economic conditions for people like me	83
Dealing with the drug problem	80
Dealing with crime	79
Keeping the U.S. economy competitive with Japan's and Western Europe's	74
Dealing with the federal budget deficit	72
Dealing with Soviet Premier Gorbachev	54

Sample size was 2001 registered voters.

The question was: I am going to read you a list of important issues being discussed in this year's presidential campaign. For each one, tell me whether you would like to hear more discussion of this issue by the candidates, or whether you've heard enough from the candidates on this issue.

TABLE 6. Perceptions of Which Candidate Could Best Address Each Issue

Issue	Candidate Who Could Best Address Issue (Percent)		
	George Bush	Michael Dukakis	Don't Know
Improving the quality of education in the public schools	38	48	14
Providing a decent standard of living for the elderly	37	52	11
Creating good economic conditions for people like me	46	44	10
Dealing with the drug problem	41	43	16
Dealing with crime	49	36	15
Keeping the U.S. economy competitive with Japan's and Western Europe's	54	33	13
Dealing with the federal budget deficit	49	37	14
Dealing with Soviet Premier Gorbachev	64	25	11

Sample size was 2001 registered voters.

In terms of the relative rankings of which issues the voters want to hear more about, which are essentially the most important domestic issues, Michael Dukakis is now generally judged as more likely to do the best job of addressing each. As for those issues about which the electorate has heard relatively enough, Bush is judged to be more likely to be effective in dealing with them — and by a larger margin (see Table 6).

The single most important issue explaining current voter preference, taking all the others into account, is the voters' perceptions of which candidate can best "create good economic conditions for people like me." And this is one of the two issues on which the public is now evenly divided about which candidate can better deal with it. Ensuring personal economic prosperity ranks far above a second tier of issues which includes "keeping the U.S. economy competitive with Japan's and Western Europe's," "improving the quality of education in the public schools," "dealing with crime," and "dealing with the drug problem."

Conclusions

In general, one would have to say that George Bush has been more effective in getting his message out to date, because the public sees Bush as relatively more effective in dealing with issues they are more likely to think they have heard enough about. But there is also more of a chance for Dukakis to appeal to Democratic-oriented voters to come home and to attract defecting Republicans on those issues about which they want to hear more.

As the level of political advertising by each candidate increases, the voters will become more familiar with the particular elements of their personalities and their issue agendas which they choose to emphasize. The chances are good that this element of the campaign will become increasingly negative, as well.

While the election can be expected to remain close in popular vote terms, this does not easily translate into a similar division of the electoral college. The candidates will devote more of their time to a relatively few states with large numbers of electoral votes at stake. The best way to track the campaign near the end — with an eye toward the eventual winner — is to look for statewide poll results from these states.

The Political Economy Scoreboard: An Update

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In 1986 this publication carried an article titled "The Political Economy Scoreboard," which examined the record of all six postwar administrations in the U.S., and looked at the behavior of both real and financial variables to assess differences in the outcomes achieved by various administrations, as well as to determine the economic outcomes that seemed most important to voters. This article updates the information base, adds a few new measures that relate to economic outcomes, and reexamines the question of voter preferences.

Measuring Economic Performance

Using actual results during a particular political administration to assess the success or failure of the economic policies associated with that administration is a chancy business. Changes in the economy are often the result of forces that have little to do with current economic policy, and good outcomes or poor outcomes may be largely attributable to the fortuitous consequences of forces that are purely exogenous and thus entirely uncontrollable from the point of view of current policy. Ideally, one should judge the effectiveness of policy in the context of a fully specified model of how the economy behaves. One would take into account not only the economic conditions inherited from the past and therefore attributable to the policies of prior administrations, but also the effects on outcomes of exogenous shocks originating either domestically or internationally but which no policy-maker could control. In that context, the effectiveness of policies would be judged by comparing the results of simulating the behavior of the economy under actual Policy A, given circumstances that were either inherited or exogenous, compared to the outcomes under Policy B, which was considered but rejected. Policy successes would be defined as outcomes that were the best that could have been achieved and (therefore) better than the alternatives, while policy failures would be outcomes that were worse than could have been achieved with alternative policies.

Needless to say, we lack sufficient understanding of the economy to create comparisons of the appropriate sort. Not only would we have difficulty in defining the consequences of the set of conditions inherited from past administrations on the actual path of economic developments during any given administration, but we would also have to understand the consequences of exogenous changes as well as to decide whether the changes were truly exogenous or were themselves a consequence of some current or past policy.

The fact that policy successes or failures cannot be accurately assessed will not prevent presumed successes or failures from being important issues in an election campaign. Voters will make their own judgments about why successes or failures occurred, and those judgments might or might not agree with judgments made by economists or other presumably well-informed critics. In addition, voters may well attach different weights to various economic outcomes than economists or others, and the weights attached by voters are the ones that count when it comes to elections.

In this article, we pose two types of questions. First, forgetting about the influence on outcomes of either initial conditions inherited from the past or of exogenous shocks (either favorable or unfavorable), how do different postwar administrations compare on results? Who did best on various criteria? Who did worst? And second, what policy outcomes do consumers (voters) appear to consider most important? An interesting subsidiary question is whether the scoreboard on results shows the same pattern as the apparent preferences of voters.

Table 1 displays various outcomes associated with the six postwar administrations (Truman, Eisenhower, Kennedy-Johnson, Nixon-Ford, Carter, and Reagan). With the exception of the first and last (Truman and Reagan), the measures cover the complete span of each administration. The readily available data do not extend far enough back to provide a complete record for Truman, hence we consider only his complete term starting in 1949; and the Reagan record is still slightly incomplete, since the last two quarters of 1988 should be included in the estimates, given the framework we are using for the calculations.

Table 1 essentially answers the question: Ignoring initial conditions or exogenous shocks, how well did each of these administrations do in terms of results? The top half of the table contains the measures that are naturally computed as compound growth rates over the time period during which each administration was in office. These are largely real growth measures — GNP, GNP per capita, etc. — except for the Consumer Price Index. The bottom half of the table contains measures that are best calculated as averages over the relevant spans of time — the unemployment rate, the interest rate, the ratio of federal deficit to GNP, etc.

Table 2 contains many of the same measures, but focuses on estimates of change rather than average performance on the grounds that these might be more salient to voters. Thus we show the difference between the last year of any given administration's record (the most recent four quarters for the Reagan administration) and the last year of the prior administration's record. Some of the numbers look quite different when calculated that way than when calculated as averages over the entire span of an administration's tenure. For example, Table 2 shows that the unemployment rate was a bit lower at the end of the Truman administration's term than the unemployment

TABLE 1. Patterns of Overall Economic Outcomes Associated with Six Postwar Administrations

Indicator	Truman	Eisenhower	Kennedy-Johnson	Nixon-Ford	Carter	Reagan
Annual Growth Rates (percent change)						
Real GNP	5.7	2.0	4.7	2.3	2.9	3.0
Real GNP per Capita	4.0	0.3	3.3	1.2	1.7	2.0
Civilian Employment	0.9	1.0	1.9	2.0	2.7	1.9
Productivity*	3.0	1.9	3.0	1.2	0.2	1.4
Industrial Production	7.0	2.2	6.7	2.4	3.7	2.8
Consumer Price Index	2.5	1.4	2.2	6.4	10.2	4.3
Levels (average over administrations)						
Corporate AA Bond Rate (percent)	2.9	4.0	5.1	8.5	10.0	12.2
Real Interest Rate† (percent)	0.0	1.9	2.2	0.0	−1.6	6.4
Federal Surplus or Deficit (NIPA) as Percent of GNP	+.74	−.29	−.55	−1.53	−1.63	−4.15
Unemployment Rate (percent)	4.4	4.9	4.8	5.8	6.5	7.7
Index of Consumer Sentiment (points)	NA‡	91	96	79	74	86

*Calculated from the series output per worker, nonfarm business sector.

†Calculated as the difference between the average long-term government bond rate and the annualized inflation rate (change in consumer prices) during the administration.

‡The quarterly Index of Consumer Sentiment series began in November 1952.

rate inherited as an initial condition (which in this case was the last year of the Truman administration that came into office following the death of Franklin Roosevelt). A similar calculation of differences shows that the unemployment rate rose substantially under Eisenhower, dropped substantially under Kennedy-Johnson, rose even more substantially under Nixon-Ford, dropped slightly under Carter, and has dropped moderately under Reagan. This is a very different perspective from that shown by the unemployment data in Table 1, where unemployment was about the same, on average, under Truman, Eisenhower, and Kennedy-Johnson, was a point or so higher under Nixon-Ford, higher still under Carter, and highest under Reagan.

The bottom half of Table 2 is designed to focus on changes in economic outcomes that are quite close to election dates. Here we measure change during the last four quarters of each administration — the type of outcome measures that many political scientists have tended to find useful in explaining voting behavior. Some of the outcome measures are also plotted in Chart 1 — measures that have some claim to possible political sensitivity — the unemployment rate, changes in the Consumer Price Index, the FHA secondary market mortgage rate, and the ratio of federal deficits to GNP.

What Do the Measures Show?

The data in Table 1 — average performance over the full span of each administration, ignoring initial conditions and good or bad luck, provide some reasonably clear generalizations. The conclusion that would be most likely to find broad agreement among economists is that the 1950s and 1960s were easier periods for economic policymakers than the 1970s and the 1980s. Virtually all of the measures in Table 1 show a tendency for economic performance to deteriorate in the last three administrations (Nixon-Ford, Carter, and Reagan) compared to the first three (Truman, Eisenhower, and Kennedy-Johnson).

While there are exceptions, most of the real output measures (real GNP, productivity growth, industrial production, unemployment rates) show that tendency, and the financial variables (assuming that low price inflation rates and interest rates are "good") have the same pattern. Thus it might be judged that it was easier to produce good results in the 1950s and 1960s than in the 1970s and 1980s — presumably because exogenous forces were more benign then than they have been during recent decades. This measurement of results is also clearly influenced both by structural forces in the economy that have little to do with policy and by the differential incidence of external shocks, as well as by forces that are likely to be related to policy. For example, growth in civilian employment has been somewhat larger during the last several decades than during the 1950s and 1960s, presumably due at least in part to the size of the baby boom cohort and to rising labor force participation rates for women. And industrial production growth was typically stronger in the 1950s and 1960s than during the 1970s and 1980s, but that is again due largely to changes in the structure of the economy — away from goods and in the direction of services. Ex-

ogenous shocks have clearly influenced these data — the two OPEC oil price shocks in 1973 and 1978–79 show up in substantially higher inflation rates under Nixon-Ford and Carter, as well as much higher nominal interest rates, than one finds in the record of prior administrations. Of course, policy may have had some influence here — shocks in particular prices do not have to affect the inflation rate, and policy certainly could have some influence on the degree to which a price shock is transmitted throughout the economy.

Finally, differences in the Table 1 results are clearly influenced by the frequency and depth of recessions. That is most evident in comparisons of the Eisenhower and Kennedy-Johnson records. The Eisenhower administration included two full recessions, and the third was in process in 1960 as Eisenhower's second term was ending. Kennedy-Johnson, in contrast, experienced only the end of the 1960–61 recession plus the mini-recession of 1966–67 during their term of office. Overall, the Eisenhower record shows the most recession periods of any postwar administration, while Kennedy-Johnson shows the fewest — a difference that shows up quite visibly in the comparisons of real growth records. And here, of course, outcomes can be influenced by policy choices.

Partisan Interpretations

The data in Table 1 can be and have been used to support politically partisan claims of superior economic performance. How do the various claims that have been and are being made stack up against the record? Several observations can be made — although the reader should be wary of the fact that no one, including this writer, is totally objective about interpretation of the record. Scoreboards of the sort displayed in Table 1 can look different depending on which aspects of performance are included and which excluded, and on how one assesses the role of luck as opposed to skill in producing outcomes.

Having said that, a number of differences show up quite strongly in Table 1, and other differences look less sharp than is often alleged. Looking at the data for the 1950s and 1960s, Democratic politicians would be quite cheerful: Both the Kennedy-Johnson and the Truman administrations produced significantly better outcomes than the Eisenhower administration. In terms of real growth rates, both Kennedy-Johnson and Truman were very substantially higher than Eisenhower, and in terms of financial variables (prices, interest rates), they were close although a bit worse. In terms of one financial variable that has been much discussed of late (the ratio of federal deficits to GNP), the *only* administration that averaged out with a budget surplus was Truman's, although both Kennedy-Johnson and Eisenhower had very small average deficit/GNP ratios.

As noted earlier, the basic reason why both Kennedy-Johnson and Truman, especially the former, showed much stronger growth records than Eisenhower was the differential incidence of recessions. The two and a half recessions that occurred during the Eisenhower administration substantially curtailed the average real growth rate and the productivity growth rate, and that difference shows up very strongly in the data.

Looking at more recent decades, what may be surprising to many is the rather modest difference in performance on real variables that shows up between the Carter administration and either the Nixon-Ford or Reagan administrations. In terms of growth in real GNP, real GNP per capita, and employment, Carter and Reagan are quite close and both tend to be better than Nixon-Ford. Reagan and Nixon-Ford are much better than Carter on productivity growth, although all three are well below the levels of productivity growth reached during the 1950s and 1960s — the well-known productivity slowdown which began around 1973 is very visible in these data.

The big difference between the Carter and the Reagan or Nixon-Ford administrations shows up in prices, where the Carter administration has by far the worst postwar record — an average of over 10 percent inflation with the next highest being the 6+ percent under Nixon-Ford.

Interestingly enough, interest rate performance is on average much worse under the Reagan administration than under any previous administration, whether measured in nominal or in real terms. Nominal interest rates have averaged several hundred basis points higher under Reagan than under Carter, and both were substantially higher than during any previous administration. Real interest rates have been vastly higher under Reagan than under any other postwar administration, and the probable reason shows up in a policy variable — the deficit/GNP ratio — which is much higher under Reagan than under any prior administration, averaging over 4 percent during the 1981–88 period.

One can find some reflection of what are often characterized as typical differences between Democratic and Republican policy preferences in the data. As a generalization, Democratic administrations have better growth records than Republican ones, and worse inflation records. The Eisenhower growth record is much worse than either Kennedy-Johnson or Truman, while the Carter growth record is better than Nixon and about the same as Reagan. But on inflation the Eisenhower record is best, the Nixon-Ford record in reacting to the first OPEC price rise was better than the Carter record in reacting to the second OPEC episode, and the Reagan record is very good on prices and quite good on nominal interest rates (taking account of the inherited inflation).

Finally, one has to look long and hard to find any evidence that supply-side economics has any empirical content except for the size of the federal deficit and the level of real interest rates.

If one moves beyond partisan claims, the data in Table 1 need to be carefully interpreted. For example, the Eisenhower record does not fare well in these results. But the Eisenhower administration bequeathed a roughly one percent inflation rate to the Kennedy-Johnson administration, along with a mild recession — a good jumping-off position for a new administration. Kennedy-Johnson produced an excellent record during the 1960s, but left a substantially higher and escalating inflation rate to Nixon-Ford. In turn, Nixon-Ford left Carter with the aftermath of the first OPEC oil shock and the severe 1974–75 recession, while Carter in turn left Reagan with very high inter-

est rates and price inflation rates, both stemming partially from the second OPEC oil shock. And Reagan will leave whoever inherits the presidency with a cumulative stock of both domestic and foreign debt that is well beyond any previous experience. And so on.

Voter Perceptions

The data in Table 2 are designed to provide a view of policy outcomes focused more on performance close to an election, on the grounds that voter perceptions may be more closely related to recent outcomes than to either more distant or average outcomes. The top part of the table is responsive to the question: How have you done compared to where you started? The bottom part is responsive to the question: What have you done for me lately? The measures in this table are ones that tend to enter into public discussions of economic policy issues — inflation rates, real growth rates, unemployment rates, interest rates, etc.

An interesting feature of Table 2 is that it often conveys a very different impression of best and worst performance than the data in Table 1. For example, while the Reagan record is fourth best on the average inflation rate over the entire period in office, and worst on both nominal and real interest rates, it is best on *reducing* its inherited inflation rate and nominal interest rate. And the table shows very clearly the problem that President Carter faced in the 1980 election. Not only was the inflation rate 7 percentage points higher than when he started and the long-term interest rate over 400 basis points higher, but during the year prior to the election the Carter administration was associated with a negative real growth rate, an increase of more than a point in the unemployment rate, an inflation rate of over 12 percent, and an increase in interest rates of more than 200 basis points.

Interestingly enough, if one looks at the bottom half of Table 2 and asks which two administrations seem most comparable in terms of how things were going during their last year in office, the two that are most like each other are the ending records of the Kennedy-Johnson and the Reagan administrations. Both had about a 4 percent real GNP growth rate during their last year, a slight reduction in the unemployment rate, a modest increase in consumer prices, a small increase in interest rates, and essentially no change in consumer sentiment. Both administrations could be charged with leaving negative legacies — the escalating inflation growing out of the Vietnam war in the case of the Kennedy-Johnson administration, and the budget and trade deficits accumulated by the Reagan administration. And for those who like to stretch parallels even further, in both cases one of the candidates was an incumbent vice-president trying to establish an independent image, and both elections were (or appear to be at present) closely contested.

What Do Voters Weigh Most Heavily?

Not surprisingly, the evidence suggests that the public is more apt to look at changes like those shown in Table 2 than at average results like those in Table 1. Perhaps of more interest and surprising to some, voters seem to evaluate economic changes in nominal rather than in real terms, a sort of money illusion in public perceptions of economic outcomes.

The best way to show the money illusion point is to note public perceptions of interest rates. In the Michigan Sur-

TABLE 2. Patterns of Economic Outcomes Relating to Change Associated with Six Postwar Administrations

Indicator	Truman	Eisenhower	Kennedy-Johnson	Nixon-Ford	Carter	Reagan
Change from Beginning to End of Span (last 4 quarters compared to last 4 quarters of prior administration)						
Unemployment rate (percentage points)	−0.7	2.5	−2.0	4.1	−0.5	−1.4
Inflation Rate (percentage points)	−3.0	−0.2	3.3	0.4	7.5	−8.7
Corporate AA Bond Rate (basis points)	19	172	192	175	418	−271
Real Long-term Interest Rate (basis points)	320	149	−203	109	−346	686
Index of Consumer Sentiment (points)	NA	8	−1	−7	−22	28
Change during Last Four Quarters						
Real GNP (percent)	3.7	0.7	3.6	3.8	−0.1	4.2
Unemployment Rate (percentage points)	−0.5	0.7	−0.5	−0.5	1.4	−0.8
Consumer Prices (percent)	1.5	1.4	4.6	5.1	12.6	3.9
Corporate AA Bond Rate (basis points)	−14	−42	28	−143	255	43
Index of Consumer Sentiment (points)	NA	−4	−1	11	10	2

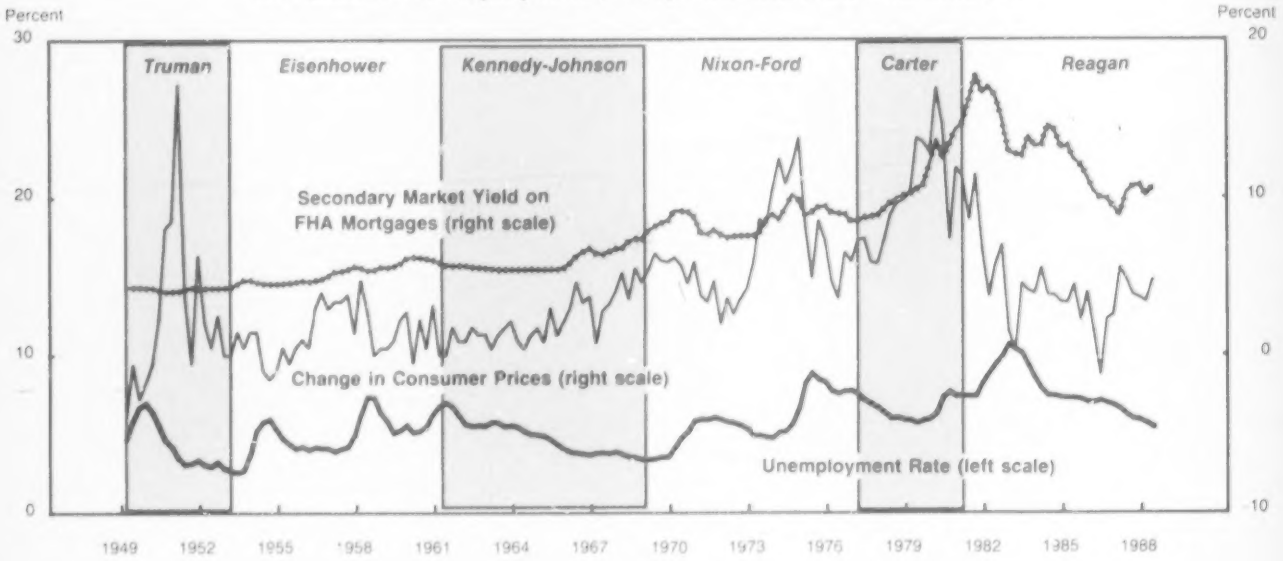
veys of Consumer Attitudes, consumers are always asked about buying conditions for houses, cars, and durable goods. During the last few years, a strong majority of consumers have reported that this was a good time to buy a house, and most of those respondents said that the reason was financing conditions — interest rates were low and money was plentiful. In the late 1970s and early 1980s, the same kind of data showed exactly the opposite perception — that was seen as a bad time to buy a house because interest rates were high and money was scarce.

The data in Table 2 (and in Chart 1) indicate the basis for these perceptions. Compared to rates prevailing when the Carter administration left office, the mortgage interest rate has been several hundred basis points lower in recent years. Similar calculations for the prime rate would show an even larger difference in the same direction. But Table 2 also shows (along with Chart 1) that *real* interest rates (estimated as the nominal long-term government bond rate less the inflation rate) have not declined at all since the turn of the decade, but instead have risen to all-time highs. While there has been a decline during the last year or so, the real rate is higher today than at virtually any time in the past 40 years.

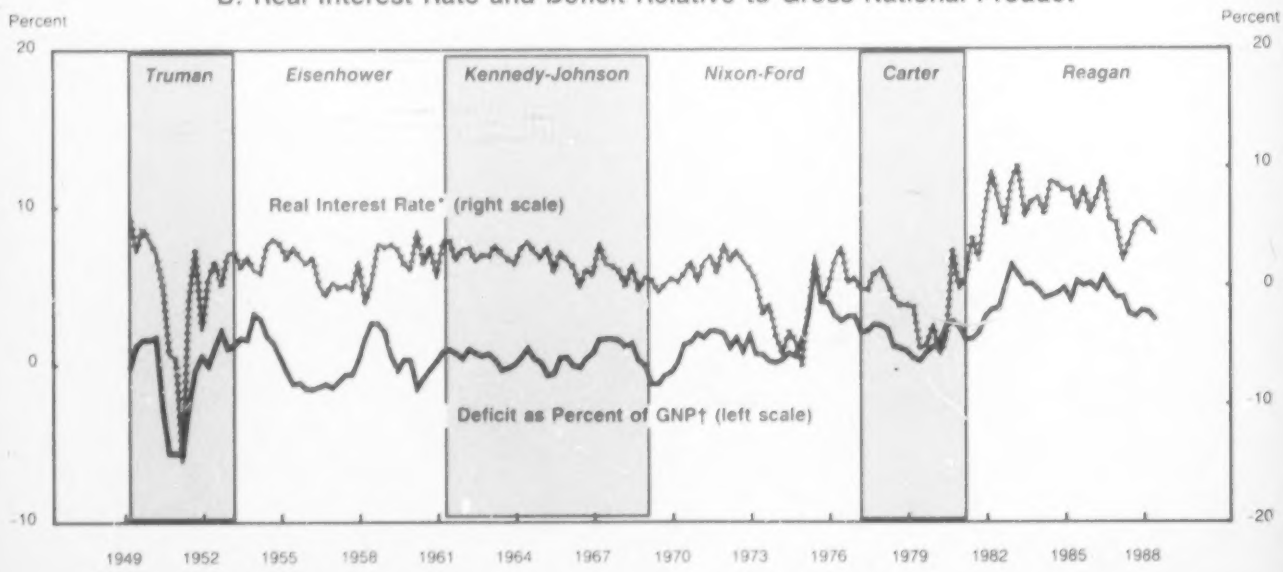
Thus consumers (and voters) clearly assess the combination of a 16 percent mortgage interest rate and a 14 percent inflation rate as a high interest rate environment,

CHART 1. Trends in Selected Economic Indicators, 1949-1988

A. Rates of Unemployment, Long-term Interest, and Inflation



B. Real Interest Rate and Deficit Relative to Gross National Product



*Long-term government bond rate less change in consumer prices (CPI).
†Deficits are shown as positive percents; surpluses as negative percents.

while the mixture of a 10 percent mortgage rate and a 2 percent inflation rate is seen as a low interest rate environment. Yet one computes to a 2 percent real interest rate, the other to an 8 percent real interest rate. But what apparently matters to consumers is that nominal rates have declined from 16 percent to 10 percent, not that real rates have risen from 2 percent to 8 percent.

Other data provide additional evidence that inflation rates and interest rates enter strongly into consumer and voter preference functions, quite independently of whatever is happening to real economic outcomes. Responses to an economic policy question (In terms of policies to combat inflation and recession, is the administration doing a good job, a fair job, a poor job, or what?) show relatively high ratings for current administration policy, and that judgment must be based on the current mix of low inflation rates, low growth rates, low (in comparison to the early 1980s) nominal interest rates, and high real interest rates. And throughout the 1970s, changes in the rate of price inflation dominated consumer perceptions of economic conditions, often independently of the movement of real variables. The best summary measure of this phenomenon is the change in the Index of Consumer Sentiment during the Carter and Reagan administrations — high and rising rates of price inflation and nominal interest rates showed up as a 22 point drop in the ICS during the Carter years, while declining inflation rates and declining nominal interest rates showed up as a 28 point rise in the ICS under Reagan.

As a broad generalization, the data are consistent with the notion that when financial variables (prices and interest rates) are relatively well behaved and show only moderate swings, real variables (output growth, employment, and unemployment) determine consumer and voter perceptions of policy success or failure. But when monetary variables (inflation rates, nominal interest rates) show wide swings, their movements will tend to dominate judgments about policy success or failure.

Moreover, the data support the inference that consumers have a strong preference for a low inflation rate and low nominal interest rate environment, given the same real environment; that is, consumers strongly prefer the combination of 2 percent money income growth and zero inflation to 12 percent money income growth and 10 percent inflation, even though both provide 2 percent real income growth; and consumers would very likely prefer the combination of zero money income growth and zero inflation, thus no real growth, to combinations of high money income growth and high inflation rates that yield positive real growth rates.

What accounts for this preference pattern? Probably three factors. First, consumers have always seen nominal changes in money income as related to their own efforts as workers — a 10 percent pay increase is seen as a reward for hard work — while price inflation is seen as an injury done to them by others. Thus the combination of 10 percent money income increase and 8 percent inflation is assessed as an unfair erosion of the gains from hard work, and is judged negatively.

Second, high inflation rates create a good deal of uncertainty. While the *average* consumer gains if *average* income growth rates are 10 percent and *average* price increases are 8 percent, quite a few consumers will lose, and many more will be fearful that they might lose. The distribution of real income change probably has more variability when it comes from a (+10, +8) combination of income change and price change than when it comes from a (+2, 0) combination. In short, consumers don't like uncertainty.

Third, consumers tend to judge high rates of price inflation, and high nominal interest rates, as a forecast of future economic difficulties — as indeed they should given the U.S. economic policy-making process. In addition, consumers seem to characterize a high interest rate/high inflation environment as one in which policy-makers have lost control and are unable to manage the system effectively.

Are these preferences for well-behaved nominal variables, and a down-weighting of real variables, a stable feature of the economic landscape? Probably but not necessarily. The aversion to high inflation rates and high nominal interest rates may be a simple consequence of the fact that these environments have been associated with the poor real economic performance of the 1970s and the early 1980s. If (relatively) low inflation and nominal interest rates do not produce better performance in future, those judgments could change. After all, history does not always support the inference that low inflation rates and nominal interest rates are a winning combination — the depression of the 1930s was characterized by precisely that combination! To date, however, the current survey data continue to support the nominal values idea. At present, consumers are expecting no change in real income, with about the same moderate growth in both income and prices, and are reporting very positive overall sentiment.

Economic Policy Issues and the Election: Does It Matter Who Wins?

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Introduction

Is it likely to make any difference to the performance of the U.S. economy, and to the economic well-being of U.S. citizens, whether Vice-President Bush or Governor Dukakis becomes president? If so, what would be different?

To examine that issue, it is necessary to understand both what the major economic policy issues facing the next president will be, and then to specify (speculate on?) how a Dukakis presidency would differ from a Bush presidency in addressing those issues. And of course it is not just that there may be differences between the policy views of a Republican or Democratic president; whoever wins would be working with the Senate and the House, hence any difference between Democratic and Republican parties in economic philosophy would also play a role in the evolution of economic and social policies.

In this article, I first look at some basic differences between Republicans and Democrats in both values and analytic judgments that have an influence on the evolution of policy, speculate about the probable policy differences between the two candidates, examine the economic policy issues that seem most important over the next several years, and conclude with some judgments about the way in which a Bush or a Dukakis presidency would handle some of those issues.

Basic Differences in Values and Approach

Although both Democrats and Republicans have been edging toward the right over the last decade, there continue to be some basic differences in how the two are likely to assess both macro- and microeconomic policy issues. On macro policy, although everyone is willing to put up with somewhat more unemployment if it can be associated with a lower inflation rate, Democrats tend to see a bigger cost to unemployment than Republicans and a smaller cost to inflation, thus influencing the way in which the two parties assess tradeoffs between the two. Democrats see unemployment as involving a huge social waste — output that could be obtained that isn't, income that could be earned that is forever lost, and hardship and inequity that could be avoided but is not. In contrast, Republicans are apt to think of unemployment as the price that must be paid to achieve a more stable economic environment, and perhaps to think of unemployment as resulting more from individual unwillingness to work except at excessively high wage rates and from individual preferences for a leisurely life, rather than from inevitable fluctuations in the demand for labor.

Democrats tend to see inflation as nowhere near as costly to society as it is often represented. In technical terms, they argue that inflation produces distributional changes because wages and prices rise at differential rates, with some people winning and some losing; it produces uncertainty, which most people dislike; and if it gets to be severe enough, it may disrupt the real economy in terms of employment, output and productivity. But except for disruption, none of these effects carry the same kind of social cost as unemployment, and disruption doesn't usually happen.

In contrast, Republicans see inflation as "Public Enemy Number One." They argue that it creates an insidious distortion of incentives working through tax effects, it causes inefficiency in resource allocation working through misperception of real prices, and that even moderate inflation has the ever-present threat of escalating to hyper-inflation, threatening to bring on fundamental economic breakdown.

Tax and Expenditure Policy

Differences in tax and expenditure policy are probably the most universally perceived differences between the two political parties. The differences extend to both the level and composition of taxes and expenditures.

On taxes, Republicans appear to believe that lower is always better, and, in particular, that lower tax rates on both earned income and capital income are always better. That is the extreme version of supply-side economics, and most Republican politicians, for good or ill, appear to have embraced it. Thus lower tax rates are presumed to encourage effort and risk-taking, thence lead to higher output, saving, and investment. On expenditures, Republicans typically believe that less government is better than more government (except for defense), and have either enacted or urged smaller social programs, less government intervention, and more reliance on the free market. None of those strictures apply to spending for national defense or agriculture, where more appears to be largely synonymous with better.

In contrast, the Democrats are more apt to see an important role for the federal government in social programs, and in correcting the inability of the market to produce sufficient resources for education, health, child care, etc. They are more protective of tax revenues and thus less inclined to reduce them, and more likely to regard tax increases as a possible solution to intractable budget deficits. They also see a much larger role for government on the expenditure side, basically in providing goods and services

that the free market will not supply enough of left to its own devices, as well as in ameliorating the economic circumstances of those who cannot compete effectively in the market. In addition, they are probably less impressed than Republicans, on the average, with the ability of tax policy to have a significant impact on incentives to work, save, or invest, and are therefore less inclined to provide tax incentives for those types of objectives.

Attitudes toward the federal deficit are also quite different between Democrats and Republicans, although they are very different now for both parties than has been true historically. It used to be true that Republicans always worried about budget deficits, while Democrats thought that budget deficits during recessions were a good thing, but not necessarily at other times. But during the 1980s with the advent of supply-side Reaganomics, it is the Democrats who have focused more on the economic problems of deficits, especially structural ones. Many Republicans are uneasy about the deficit but don't want to talk about it, while the supply-side true believers view deficits with equanimity — something that represents a temporary problem that the economy will naturally grow out of if only given enough time.

In addition, Republicans tend to argue publicly that the only reason we have large structural deficits is that the Democrats are unwilling to cut pork-barrel programs, and that the profligacy of Democratic Congresses is responsible for the deficit. Many — perhaps most — Republicans don't really believe that, since the numbers don't add up. All in all, basic views on the deficit problem seem quite different now than was true in the 1960s and 1970s, and the mainstream views of both parties have shifted dramatically during the 1980s.

Reliance on the Market

Differences here are deeply rooted, largely impervious to empirical evidence or analytical insights, and have many and important implications. To overstate the case somewhat, Republicans tend to think that the market always functions perfectly and that tampering with it is bound to lead to worse outcomes, while Democrats tend to believe that the market can't be trusted and that imposing legislative constraints or rewards is better than working entirely through financial incentives.

This difference in reliance on the market shows up in the treatment of a good many areas of economic policy. For example, Republicans (at least the current crop) tend to be strongly in favor of free trade, opposed to quotas or other market limitations on imports, and insistent that foreigners be responsible for their debts. Democrats, in contrast, are more apt to be protectionist and to be concerned about the cost of the adjustment process for U.S. workers in industries where imports have made major inroads, more inclined to favor quotas, and more inclined to favor debt rescheduling amounting to partial forgiveness for countries with poor prospects of meeting their financial obligations.

On environmental policy, although nobody seems to favor vigorous use of the market in the way economists would prefer (effluent taxes instead of prohibitions, selling pollution permits to the highest bidder, etc.), it still tends to be true that Democratic politicians are adamant about prohibiting sin rather than taxing it, while Republicans are somewhat less adamant on that issue. And Republicans are apt to be more relaxed about enforcement of existing environmental provisions, probably because they feel that many such restrictions are foolish and ineffective invasions of private decisions, while Democrats would be more inclined both to regard regulations as fair and effective and to undertake vigorous enforcement to punish the sinners. Both parties tend to be tolerant of environmental damage done by small firms.

Much the same underlying set of values about reliance on the market probably accounts for the marked difference between Democrats and Republicans on income distribution issues. Republicans are apt to feel that the market is not only efficient but fair, and that if some people are rich while others are poor it's because the former have earned it and the latter are only getting their just rewards for being lazy and/or inefficient and/or improvident. Moreover, Republicans are apt to take the view that trying to equalize income by taxing the rich and giving to the poor will impair the incentives of the rich, who are a major source of saving, productive effort, and economic progress, and that providing transfers to the poor will impair work incentives, enabling them to live a life of ease in relative luxury. The extreme version has welfare queens riding around in Cadillacs and drinking vodka and tonic while watching color television, all at the taxpayers' expense.

In contrast, Democrats are more apt to feel that one of the most important functions of government is to help make life more tolerable for those who, largely by accidents of birth, environment, and opportunity, do not fare well in a market economy. They are also likely to judge that people are rich at least as much because they are lucky as because they are energetic and skillful, and that asking the better-off to help maintain the consumption standards of the worse-off is neither destructive of incentives nor in conflict with basic principles of equity.

Attitudes toward the market and considerations of equity also underpin important differences in public policy views about areas like education and health. Republicans are less willing to subsidize public education, particularly higher public education, because they think that the money is not well targeted towards those who would benefit from subsidies, and it is taken advantage of by those who don't really need the subsidy. Democrats, in contrast, tend to feel that education is the principal vehicle for unlocking the doors of opportunity for those who would otherwise find them closed, and are willing to put up with some inefficiency in order to ensure that opportunities are available to everyone, especially to those with disadvantages of birth or environment. And much the same is true for public policy regarding health care, where the Republicans may be more cognizant of the costs of effective and widespread coverage than of the inequities created by less generous programs, while Democrats are more cognizant of the inequities and less concerned about the costs.

Finally, there is an interesting difference between Democrats and Republicans, at least in recent decades, regarding

support for various kinds of research and development activities. The differences here do not really relate to different views of how well the market functions, or even to different views about economic costs and benefits. Rather, they seem to relate to differences in the priority to be given to military spending, to different judgments about the links between research and development outlays and productivity, and to different perceptions about the links between scientific research and public policy programs. These differences can be seen most visibly during the 1980s, and may be more a reflection of Reaganomics than of any longstanding difference between Democrats and Republicans.

Since 1980, there has been a dramatic shift in the composition of federal R&D support, with little change in the share of output going to R&D. Support for military R&D has gone from something over a third of total R&D in the 1970s to almost two-thirds by the middle 1980s. Within the civilian R&D sector, support for the physical and natural sciences has been relatively well maintained while support for the social and behavioral sciences has been cut sharply. At the National Science Foundation, for example, which is only a few percent of total R&D but an important source of support for much basic scientific research, the share of social and behavioral sciences has been cut almost in half since 1980 (and would have been virtually eliminated if the Reagan administration had been able to implement its earliest budget plans).

The reason for the growing R&D effort going to the military is simple enough — defense has been a very high priority of the current administration, and defense R&D has grown correspondingly. The cuts in basic research in the social and behavioral sciences appear to reflect both the unhappiness of the Reagan administration with the absence of support for their economic program from within the scientific community, and possibly a perception that costly social programs are less likely to be mounted if less is known about the economy and the society.

Incidentally, the latter view is not characteristic of conservatives, who are quite likely to take a dim view of the wisdom of spending large amounts of money on untested, untried, and unpredictable social programs, simply because they believe that resources ought to be used wisely and not wasted. But conservatives are also likely to take the view that research into understanding the economy and the society has a high priority, since the best way to avoid putting money into programs that ultimately prove wasteful is to have a better understanding of which programs are likely to be effective and which not. Thus the R&D pattern seems to be an idiosyncracy of the Reagan administration, not a longstanding characteristic difference between Republicans and Democrats.

Policies, Candidates, and Issues

The first part of this article has sketched out some characteristic differences between Democrats and Republicans on economic policy issues. Such differences do not necessarily attach to the views of either Vice-President Bush or Governor Dukakis, since — like most generalizations about differences — there are many exceptions, and both parties have a wide spectrum of views on all of the issues discussed above. Still, one might expect to find some relationship between the traditional views of the two parties and the views of the current candidates.

At the moment, it seems to this writer very hard to tell what differences might be expected between a Dukakis presidency and a Bush presidency on economic policy issues. So far, this seems to have been largely an image campaign rather than an issue campaign, and the primary issues that seem to have attracted the attention of voters — perhaps because they have attracted the attention of the media — are almost entirely non-economic (Vice-President Bush's judgment and leadership ability, Governor Dukakis's lack of foreign policy experience and his defense posture, who is is tougher on crime or drugs, who can better recite the Pledge of Allegiance, etc.). To the extent that economic policy issues have surfaced, they have been largely nonspecific — Vice-President Bush has focused on the economic track record of the Reagan administration and essentially argued that the Democrats can't be trusted not to repeat the economic performance of the late 1970s, while Governor Dukakis has focused on his track record in Massachusetts in creating jobs and prosperity and has suggested that the same vision and insight can be applied to the national scene. And the Governor has suggested that "Republican prosperity" has resulted in a vanishing middle class, the creation of large numbers of bad jobs, and a need for families to have two earners in order to reach an acceptable living standard.

Neither has said much about either the budget or the trade deficit, or at least has not proposed a solution with any specificity. Taxes have become a dirty word in the campaign, with the vice-president pledging never under any circumstances to raise them, and the governor suggesting that taxes are an unlikely but possible last resort in the event of real catastrophe on the budget.

Although the judgment that economic policy issues have been totally ignored is a bit harsh, since the candidates have talked about health care, job training programs, child care issues, trade issues, and the environment, the public impression is certainly one of image rather than substance. And in a sense, the public may have only itself to blame: The public opinion poll data seem to indicate that many of the electorate do not care about issues, but instead are concerned about general impressions and images. Of course, there may be a chicken-and-egg problem here — the candidates are being nonspecific about issues because they think that the public isn't really interested in them, and the public is concentrating on images because that is what they are being offered by the candidates.

An alternative explanation is that the media are to blame — they tend to prefer snappy sound bites, and it's easier to do that on image (especially a negative one) than on substance. Finally, it may still be true that the campaign will eventually address issues in some detail, but that the evolution of campaign strategies has forced both candidates to focus initially on general impressions and perceptions — a stage that will pass.

Economic Policy Issues

Regardless of whether or not the campaign gets around to an intensive discussion of economic policy issues, the incoming president will have to face up to these issues sooner or later.

Everyone's list of the relevant issues will look a bit different. Some of what seem to me the relevant ones are short-term and probably urgent, while most are longer-term and can temporarily be ignored, although eventually they will have to be faced.

The Twin Deficits. The most visible problem, which has been subject to continual discussion and commentary, concerns the twin deficits in the federal budget and in the merchandise trade account. Most economists think that the two are causally related — the budget deficit pushed up real interest rates, pushed up the dollar, sucked in foreign capital from abroad, and deteriorated the U.S. merchandise trade balance. The numbers, while they have been improving, are still imposing: The national income and product accounts (NIPA) version of the federal deficit is currently running around $150 billion annually, while the merchandise trade deficit has been running at about the same level over the last four quarters.

The budget deficit is the easiest to understand, although even that is clouded by dispute among economists about whether the NIPA measure is an appropriate measure of the deficit, and considerable dispute among politicians as to what should be done about it.

As many economists see it, the basic problem with the federal deficit is that it makes a major negative contribution to total national saving, and hence a major negative contribution to total national investment. If foreign lending permits national investment to be higher than national saving, as has clearly been true over the last several years, then investment may not represent a problem. But returns to that investment do not accrue to U.S. citizens, going instead to the foreigners who have put up the money. That may be fine for an undeveloped country with large unexploited capital opportunities and little domestic saving, but no one has characterized the U.S. as being an underdeveloped country.

The basic problem with the budget deficit is not that deficits are always bad for the economy: Economists of almost all political persuasions agree that deficits incurred to cushion cyclical downturns have a benign influence — but not many take that view with respect to deficits that occur when the economy is (as now) at or close to full employment. Then, the deficits mean that we are consuming too much collectively, and that private and corporate saving is being largely used to finance federal government dissaving rather than to finance net productive capital investment. Thus most economists and politicians think that the deficit ought to be reduced — preferably to zero — unless there is a recession in progress.

The arguments are about how to do that, and the battle lines are clearly drawn. Republicans want to cut wasteful domestic spending, while Democrats want either to cut wasteful defense spending or to raise taxes or both. The problem with the Republican argument is that once you exclude their untouchables — defense spending, Social Security entitlements, and interest on the debt itself — there isn't enough left to cut with any likelihood that the cuts could equal the size of the deficit. The supply-siders, of course, keep hoping that we will grow ourselves out of the deficit, but that message has been repeated now for about seven years without any evidence that it's more than wishful thinking. (As one distinguished Democratic economist put it, "There's nothing wrong with supply-side economics that dividing everything by ten won't fix.")

On the Democratic side, cuts in defense from an already slowed rise in military spending won't plausibly do the job, and unless both entitlements and other social programs are to be cut drastically, there won't be anything left to do but find some way to generate more tax revenue. Closing loopholes and taxing the underground economy won't do it, so something else is required. But political perceptions being what they are, everyone thinks that proposing to raise taxes is the kiss of death — after all, that's why Mondale lost so heavily in 1984, it is thought.

The net result is a standoff on policy discussions. The Republicans are promising a smoke-and-mirrors solution, while the Democrats are offering smoke alone. Everyone is presumably hoping that some kind of miracle will bail them out. And the recent contributions from the candidates haven't helped much. Mr. Dukakis wants to move people from welfare to productive work and thus save money as well as generate tax revenues, in addition to closing tax loopholes. These are certainly desirable objectives but won't come close to solving the deficit problem. Mr. Bush wants to solve the problem by lowering the capital gains tax rate and thus generating lots of tax revenue, a program that sounds like supply-side economics squared.

It is worth noting that the deficit problem is actually worse than it looks. The conventional deficit numbers include any surplus or deficit resulting from transactions in the Social Security trust fund. In the late 1970s and early 1980s, that trust fund didn't make much net contribution either way to the federal deficit. But after the 1983 legislation designed to fix the long-run Social Security problem, the trust fund has been accumulating surpluses — as indeed it ought to. In 1988, for example, the Social Security trust fund had a surplus of almost $40 billion, meaning that the true deficit (if one defines that as the official deficit plus any surplus contributed by the trust fund) was around $190 billion instead of $150 billion. Congressional Budget Office projections put the annual Social Security trust fund surplus at over $100 billion by the 1990s, and project the federal deficit excluding all the trust funds as rising toward $300 billion rather than falling.

Should we worry about the deficit excluding Social Security trust fund accumulations, or is the right measure the one that everybody uses? If we think of the Social Security trust fund as representing a pool of saving needed to finance the investment necessary to produce the real goods and services that will be transferred to Social Security recipients in future, the answer seems to be that the right number is the conventional deficit plus the Social Security trust fund accumulations. If all the trust fund accumulations do is lend money to more profligate sectors of

the government rather than facilitate investment in real capital, there won't be any added product with which to pay the claims of future Social Security beneficiaries, and those claims will have to come out of product available for the rest of the society. Thus the problem is worse than it looks, and neither smoke and mirrors nor avoidance is of much help.

The trade deficit is more complicated. In the short run, U.S. net investment and the capital stock have been augmented by the trade deficit, and the productivity of U.S. workers is presumably enhanced just as if the investment were financed from domestic saving rather than foreign saving. But in the longer run the services side of the current account deteriorates as earnings on foreign investments in the U.S. accumulate. That continues as long as the deficit remains, since any annual deficit adds to the cumulative stock of debt owed to foreigners. Thus even when the deficit stops, it leaves behind the residue of a large foreign debt that needs to be serviced, requiring in one way or another a real transfer of resources from the U.S. to the rest of the world.

Finally, the twin U.S. deficits are also closely related to the behavior of the international economy. For example, our current stance of relying solely on monetary policy to deal with demand management in the U.S. has meant that real interest rates (the nominal interest rate minus the inflation rate) have been extremely high in the U.S., given the need to attract funds to cover our massive budget deficit. But that pushes up interest rates generally, creating among other problems serious dislocations for developing debtor nations who must also pay those same high real interest rates.

Productivity Growth. The second policy issue, more long-term but equally urgent and also not new, is to find ways to enhance productivity growth in the U.S. economy, presumably in part by way of increasing the flow of saving and investment. Fixing the budget deficit, which would in an accounting sense dramatically increase the flow of net saving if nothing else changed, would make a substantial contribution to the productivity problem, but the problem is almost certainly more deeply rooted than that.

It is well to keep in mind that, from the perspective of national economic policy, finding ways to bring the rate of productivity growth back up to the levels reached in the 1950s and 1960s is probably the single most important issue. The trend of productivity growth is the most important determinant of economic well-being in the society as a whole, and even small differences in trend growth rates add up to very large differences in output, consumption, and well-being over longer spans of time. Improving the productivity growth rate by as little as a half percent per year adds tens of billions to output and potential consumption each year, and adds hundreds of billions after a decade — more than enough to pay for most of the social programs thought to enhance quality of life in our society. And other important societal objectives are far easier to accomplish if real incomes are rising because productivity is rising than if real incomes are stagnant because productivity is stagnant. For example, reducing income inequality by providing resources to those in the lower part of the income distribution is politically much easier to accomplish if people have to give up only part of their gains to provide resources for the less fortunate, much harder if people have to reduce their living standards to provide such resources. Thus it is not accidental that social programs had much easier going politically in the rapidly growing period of the 1960s than during the more sluggishly growing 1970s and 1980s.

Although the objective of improving productivity growth would meet with universal acclaim by politicians of all persuasions, finding out how to do it is not so simple. The U.S. economy, along with other economies in the developed world, has had a persistent and nagging slowdown in productivity growth that dates from about the early 1970s. Just why productivity has slowed down is in considerable dispute: The possible explanations more than exhaust the amount of slowdown to be explained.

Although solutions cannot be guaranteed, it does seem clear that finding some way to promote a higher level of investment could only be helpful — it might not help much, but it would certainly help some and could not possibly hinder. That applies not only to investments of the conventional type — tangible capital assets in the private sector — but also to investments in "human" capital — education, health, etc. If we are to believe recent stories about the effectiveness of schooling in the U.S., a major solution to the present and future productivity problem may be to find more effective ways to increase the level of skills associated with years of schooling, either by increasing the intensity of effort on the part of students or by changing the curriculum mix between the mastery of basic skills and everything else.

The problem does not lie solely in the effectiveness of schools and teaching. A great deal of skill development takes place in households, particularly in the early years of child development. In a society where fewer and fewer children will have exposure to both parents during their developing years, it seems likely that the contributions of parents to child development will be declining, and an offset will have to be found elsewhere. That is presumably why issues relating to daycare have surfaced in the present campaign, and that focus seems to be fully warranted by the available data and the likely future trends.

Demographic Shifts. The third economic policy issue that needs to be addressed is even more distant in time, although its appearance is a lot more certain than any of the others. Everyone is aware of the fact that the U.S. population, as well as almost all populations in the developed world, will be undergoing a dramatic change in age composition over the next several decades. Given present fertility trends, there will be a substantial shift over the next half-century, reaching its peak around the year 2020, in the proportion of the U.S. population that will be dependent in the sense of consuming without producing — the retired population plus the school-age and preschool population. The retired population will increase substantially as a percent of the total. This compositional change is basically the after-effect of the baby boom of the 1950s and early 1960s, coupled with a general tendency for older people to live longer. None of this is news — the relevant population has already been born, and the only uncertainties are retirement age and length of life.

What are the policy implications of this demographic shift? As a minimum, policies designed to influence retirement decisions, policies designed to influence the utilization of health care for the aged, and policies designed to expand the productivity of the working population will become central during the next several decades.

While these are a very important set of policy issues, they can be avoided for a while since the consequences of these shifts will not (except for medical care expenditures relating to the aged) begin to impact until the early part of the next century. But if nothing has been done by then, it will be too late.

Inequality. Finally, there is a distinct possibility that the next president will have to face up to the facts of rising income inequality among American households. The data here are not entirely clear, but it does appear that the share of the top 10 percent of the population has grown relative to the total, while that of the bottom 10 percent has declined. For example, the poverty population is now substantially higher, as a proportion of the total population, than it was during most of the 1970s, despite the long economic expansion during the 1980s. These issues are complex, and the outcomes depend on a good many other things besides economic policy. But policy during the 1980s has clearly moved in the direction of greater inequality, driven by a perception that lowering marginal tax rates for the wealthy would result in an upsurge in output and productivity and pull everybody up, including the bottom. But the rising tide of the 1980s has not lifted all boats equally, and some of them appear to be still mired in the mud.

How Would Policy Differ?

The central question for the voters, to the extent that economic policy issues are of concern, is: How would policy differ under a Democratic or a Republican administration? One can make a plausible case for the proposition that, given the constraints that will be faced by any incoming administration, given the limited degrees of freedom available to any administration as a consequence of the need for political compromise to achieve any policy change at all, and given the quite modest influence of policy on the economy, one would not expect outcomes over the next four years to be very different under President Bush than under President Dukakis.

But that is probably too strong an assertion. While policy may not be able to make more than very modest changes over a span of time like four years, the direction of the economy can be shifted by policy, and the direction of the shift will matter a good deal over the long run. An obvious illustration is the influence of the Reagan administration on the American economy over the last eight years, which has undeniably shifted its direction compared to the 1960s and 1970s and left any incoming president with limited options with regard to domestic programs.

Speculating on differences in economic policy between possible administrations is hazardous, especially given the very generalized nature of economic policy discussions in the campaign so far. And speculation not only has to take into account the views of the candidates, but also the political reality that will influence the translation of presidential initiatives into policy decisions.

My speculations about differences are based more on impressions and considerations of political process than on assessments of detailed statements about position. Thus I would expect that:

- A Dukakis administration would make more progress on the budget deficit than a Bush administration — that is partly because Vice-President Bush has locked himself into a position where tax increases cannot be used to help solve the problem, and it will be easier for a Dukakis administration to blame previous policy for the deficits and propose vigorous steps toward a solution.

- A Dukakis administration would be more intrusive than a Bush administration in areas where market forces seem to be producing unpalatable outcomes. That would apply, for example, to the provision of publicly supported daycare and health care, environmental policy, and trade policy.

- A Dukakis administration would do better on real growth rates and on reducing the trade deficit, and worse on inflation rates, than a Bush administration. That judgment is based on the fact that a Dukakis administration will try to use both fiscal and monetary tools to influence the economy, while a Bush administration won't use fiscal policy at all except for its supply-side aspects. And a Dukakis administration will be more ambitious on social programs, but is likely to find that the costs will generate more demand than they had hoped.

Possibly the most important difference between a Dukakis or a Bush administration is in the degree to which the president can set an economic policy agenda, inspire confidence that the agenda is important and warrants being supported, and implement that agenda. Differences between presidents in leadership style and effectiveness are surely among the most important such differences, and probably matter more to eventual outcomes than differences in detail or in particular policy preferences. At the present writing, neither candidate seems to have captured the imagination of the public — formulating a coherent and consistent vision of the future and inspiring confidence that the vision can be realized. And to the extent that the election turns on issues at all, it is likely that the intangible of creating a vision for the future will carry more weight — deservedly so — than any of the other differences.

Actual and Projected Economic Indicators

seasonally adjusted

SERIES FORECAST BY THE ASA-NBER PANEL													
ECONOMIC INDICATOR	Quarterly Data										Annual Data		
	Actual					Projected					Actual	Projected	
	1987:2	1987:3	1987:4	1988:1	1988:2	1988:3	1988:4	1989:1	1989:2	1989:3	1987	1988	1989
GROSS NATIONAL PRODUCT	4,484.2	4,568.0	4,662.8	4,724.5	4,823.8	4,891.0	4,972.8	5,056.1	5,129.6	5,204.3	4,526.7	4,850.0	5,173.3
GNP IMPLICIT PRICE DEFLATOR (index, 1982 = 100)	117.3	118.2	118.9	119.4	121.0	121.9	123.1	124.4	125.8	127.0	117.7	121.3	126.4
CORPORATE PROFITS AFTER TAXES	141.1	149.5	145.7	149.4	162.7	157.5	162.0	163.5	164.0	165.0	142.9	155.0	164.0
UNEMPLOYMENT RATE (percent)	6.23	5.97	5.90	5.70	5.43	5.40	5.40	5.50	5.60	5.70	6.18	5.50	5.65
INDUSTRIAL PRODUCTION (index, 1977 = 100)	128.2	130.9	133.2	134.5	136.0	138.0	139.0	140.0	141.0	142.0	129.8	137.0	141.0
NEW PRIVATE HOUSING UNITS STARTED (millions)	1.606	1.619	1.533	1.477	1.481	1.500	1.470	1.420	1.410	1.400	1.634	1.481	1.427
CONSUMER PRICE INDEX (annualized percent change from prior quarter or year)	4.94	3.94	3.59	3.40	4.79	4.80	4.90	5.00	5.10	4.90	3.70	4.20	5.00
3-MONTH TREASURY BILL RATE (%)	5.73	6.03	6.00	5.76	6.23	6.95	7.20	7.35	7.40	7.34	5.83	6.50	7.40
NEW HIGH-GRADE CORPORATE BOND YIELD (percent)	9.65	10.14	10.37	9.64	10.08	10.20	10.40	10.60	10.80	10.70	9.69	10.03	10.68
GNP IN 1982 DOLLARS	3,823.0	3,865.3	3,923.0	3,956.1	3,985.2	4,012.9	4,042.2	4,066.3	4,097.8	4,117.5	3,847.0	3,999.7	4,106.0
PERSONAL CONSUMPTION EXPENDITURES (1982 dollars)	2,516.6	2,545.2	2,531.7	2,559.8	2,579.0	2,591.0	2,603.0	2,616.0	2,628.0	2,641.0	2,520.9	2,582.3	2,633.5
NONRESIDENTIAL FIXED INVESTMENT (1982 dollars)	434.8	462.8	464.8	473.4	490.2	498.0	504.0	510.0	515.0	516.0	445.2	491.2	517.5
RESIDENTIAL FIXED INVESTMENT (1982 dollars)	197.6	192.1	192.7	189.5	189.6	191.0	189.0	188.0	188.0	188.0	195.2	189.5	187.9
CHANGE IN BUSINESS INVENTORIES (1982 dollars)	27.8	13.0	67.1	66.0	35.3	35.0	30.0	30.0	27.1	26.0	34.4	44.0	27.4
NET EXPORTS (1982 dollars)	-126.0	-130.7	-126.0	-109.0	-92.6	-84.0	-79.0	-74.0	-70.0	-65.0	-128.9	-90.0	-67.5
FEDERAL GOVERNMENT PURCHASES (1982 dollars)	332.1	342.1	347.7	327.8	331.6	333.0	340.0	339.8	339.0	340.0	339.0	331.9	340.0
STATE AND LOCAL GOVERNMENT PURCHASES (1982 dollars)	440.1	440.8	444.9	448.7	452.2	454.0	457.0	458.7	460.9	463.2	441.2	452.7	461.5

SERIES FROM THE CURRENT-DOLLAR GNP ACCOUNTS													
ECONOMIC INDICATOR	Quarterly Data										Annual Data		
	1986:1	1986:2	1986:3	1986:4	1987:1	1987:2	1987:3	1987:4	1988:1	1988:2	1985	1986	1987
GROSS NATIONAL PRODUCT	4,180.4	4,207.6	4,268.4	4,304.6	4,391.8	4,484.2	4,568.0	4,662.8	4,724.5	4,823.8	4,014.9	4,240.3	4,526.7
PERSONAL CONSUMPTION EXPENDITURES	2,739.0	2,772.1	2,842.8	2,876.0	2,921.7	2,992.2	3,058.2	3,076.3	3,128.1	3,194.6	2,629.0	2,807.5	3,012.1
GROSS PRIVATE DOMESTIC INVESTMENT	686.6	667.8	653.0	656.4	685.5	698.5	702.8	764.9	763.4	758.1	643.1	666.0	712.9
NET EXPORTS	-93.0	-101.2	-109.1	-114.3	-119.1	-122.2	-125.2	-125.7	-112.1	-90.4	-78.0	-104.4	-123.0
GOVERNMENT PURCHASES	847.8	868.8	881.8	886.5	903.8	915.7	932.2	947.3	945.2	961.6	820.8	871.2	924.8
DISPOSABLE PERSONAL INCOME	2,965.1	3,016.3	3,032.4	3,064.7	3,143.9	3,154.1	3,224.9	3,315.8	3,375.6	3,421.5	2,838.7	3,019.6	3,209.7
PERSONAL SAVING RATE (percent of disposable income)	4.6	5.1	3.3	3.2	4.2	2.2	2.3	4.3	3.4	3.7	4.4	4.0	3.3

Note: (1) All data are at annual rates and in billions of current dollars unless otherwise indicated.

Sources: Projections: American Statistical Association – National Bureau of Economic Research panel of forecasters.
Actual Data: U.S. Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

*Substantial revision of the data for series marked with an asterisk has occurred since the last printing.

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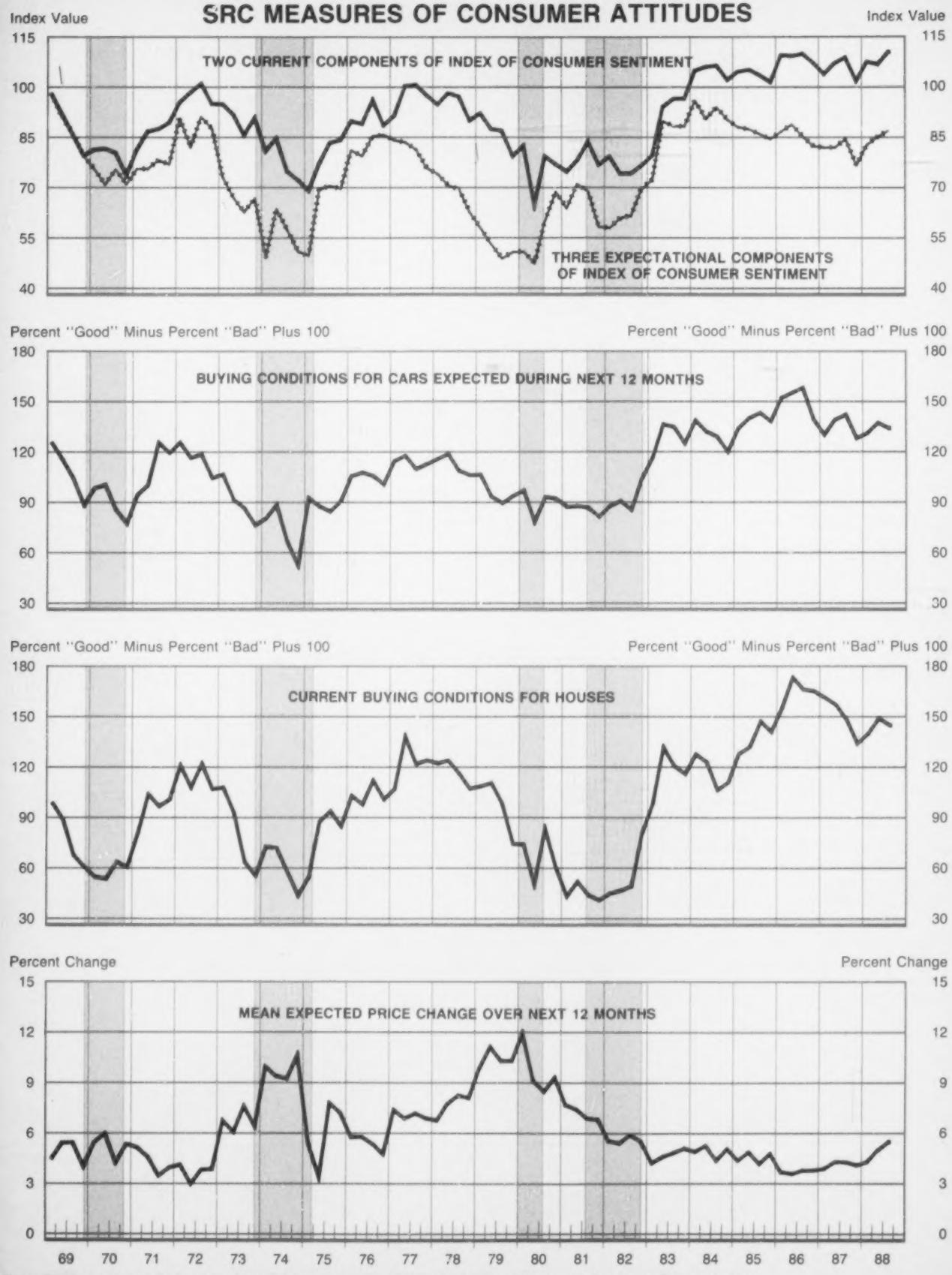
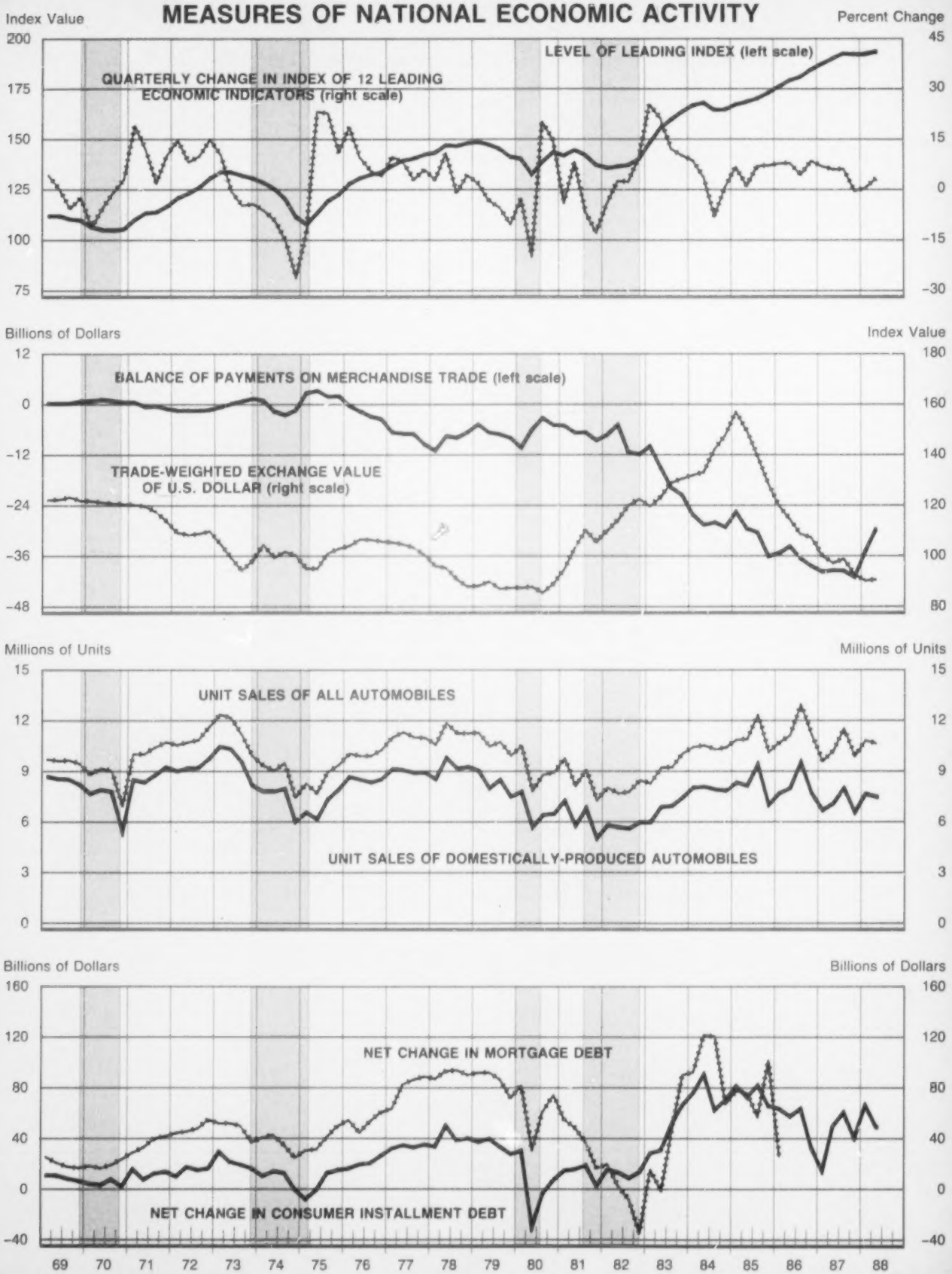


Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

MEASURES OF NATIONAL ECONOMIC ACTIVITY



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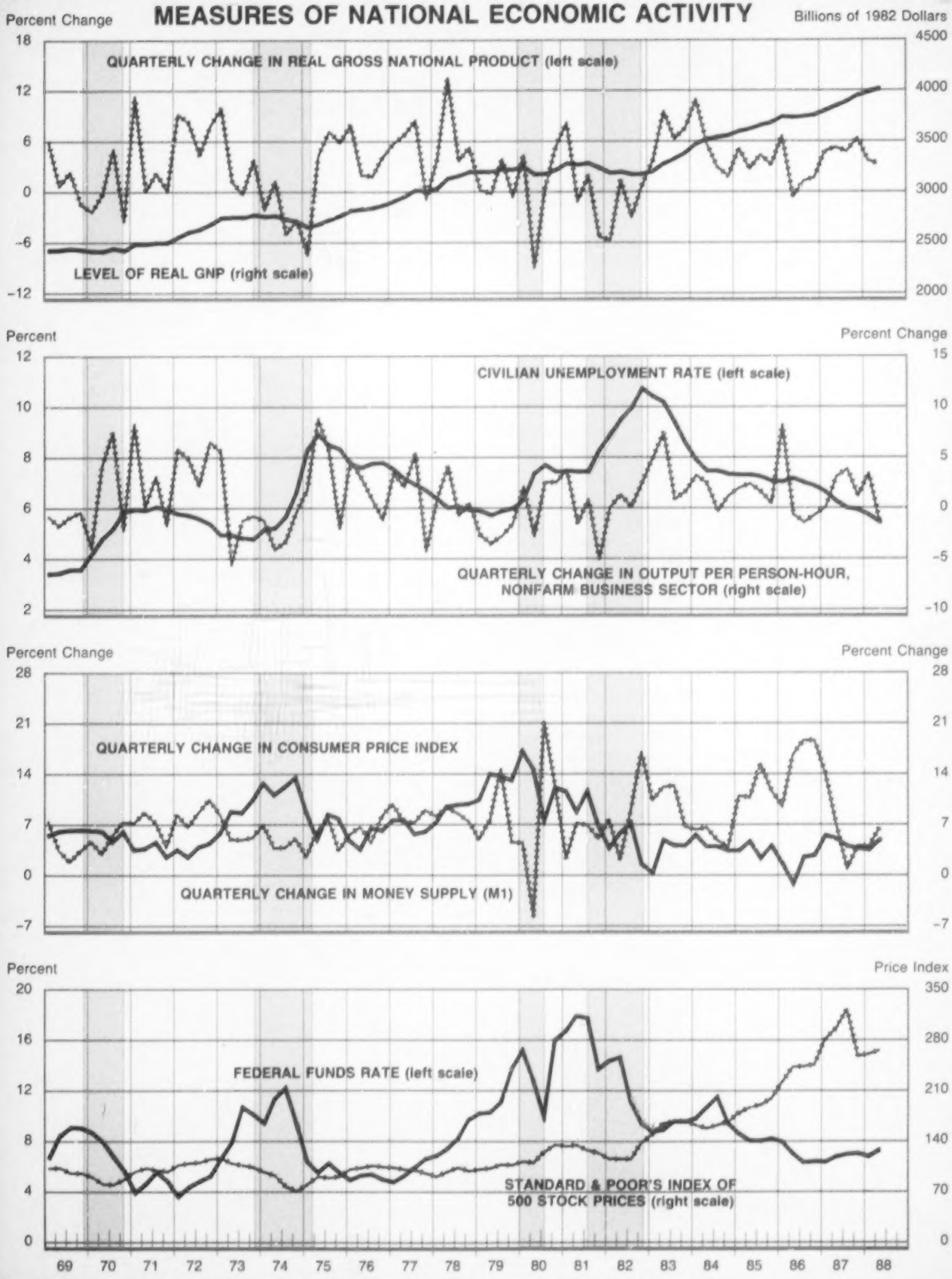
MEASURES OF NATIONAL ECONOMIC ACTIVITY



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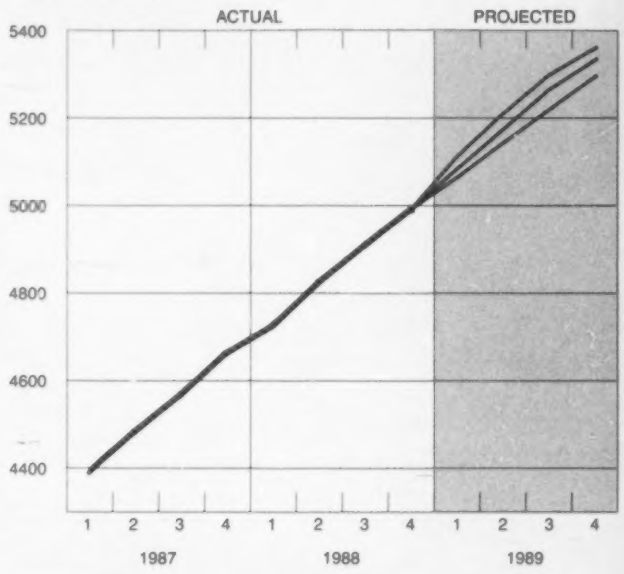
GROSS NATIONAL PRODUCT

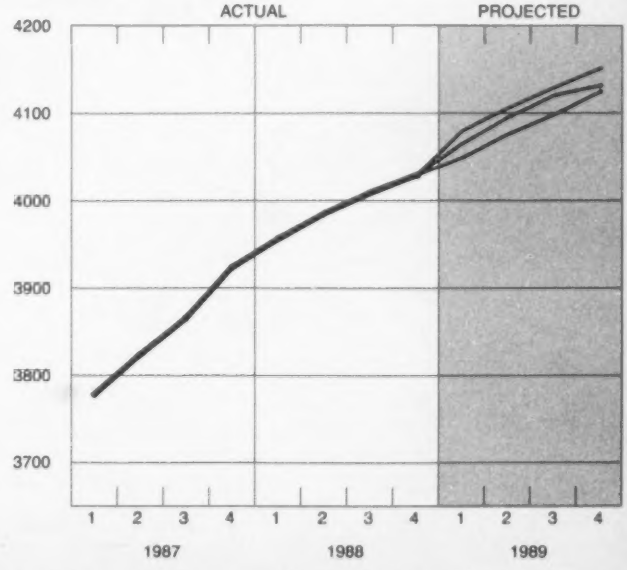
IN CURRENT DOLLARS
Billions of Dollars



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

GROSS NATIONAL PRODUCT

IN CONSTANT 1982 DOLLARS
Billions of Dollars



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The U.S. Economic Outlook for 1989–90*

Saul H. Hymans and Janet C. Wolfe
Research Seminar in Quantitative Economics
The University of Michigan

Review of Last Year's Forecast

At the time of last year's Economic Outlook Conference we had just suffered one momentous economic shock and were monitoring the news wires to see whether we might avoid the next one that seemed to be looming on the horizon. The one just suffered, of course, was the stock market crash on the 19th of October 1987, an event common to most of the major securities markets around the world. There was no lack of economists, forecasters, analysts, observers, and pundits of note who were vociferously certain that so close a replay of the dimensions of the stock market crash of 1929 had to result in a severe downturn — maybe even a depression — in 1988. Anyone who might have thought that daily, weekly, or even monthly movements in the securities markets were so dominated by efficient reactions to real economic fundamentals as to be highly predictive of the same, should by now have learned better. The near-term fortunes of the stock market and the economy are connected by a long rope, not a tow bar.

As to the news we were anxiously awaiting, it was whether the budget summit then in progress would break the fiscal deadlock between the White House and the Congress. That is, would the summit find a way to cut about $23 billion out of a projected $67 billion increase in federal spending so as to be Gramm-Rudman-Hollings (GRH) legal for fiscal '88? Many, we included, thought that a negative answer at a time of precedent-setting turmoil in the international financial markets would have left the economy open to substantial risk of serious monetary disturbance. On November 20th the budgeters at the summit announced an agreement. Whether because of that outcome or not, the economy has not been impacted by any serious monetary disturbance during the ensuing year. And the federal budget deficit for fiscal '88 is approximately on target.

Correctly rejecting a mechanistic projection from the stock market to the economy, and correctly assuming that there would be a budget agreement and no monetary disaster, may have been necessary conditions for an accurate forecast of GNP for 1988, but they were hardly sufficient.

We are now estimating that 1988 will register an increase in real GNP of 146.7 billion 1982 dollars — a rate of growth amounting to 3.8 percent. The forecast we presented a year ago projected an increase of only $109.6 billion, or 2.9 percent. This implies a forecast error of about $37 billion, or 9/10 of one percentage point, which is one of the bigger Outlook Conference forecast errors. As usual, there is much to be learned from studying our errors; but first let us enjoy the small comfort of knowing that we were more accurate than most, at least in terms of the single dimension of real GNP.

To provide a perspective which makes the point, Table 1 summarizes certain aspects of the forecasts which appeared in the well-known *Blue Chip Economic Indicators* published November 10, 1987. These were all early November forecasts and included an RSQE figure of 2.8 percent real growth based on a preliminary version of what became our Outlook Conference forecast. If the Blue Chip regulars can be regarded as representative of the community of serious professional economic forecasters, then about 70 percent of that community were less accurate, and nearly half a great deal less accurate, than we were a year ago. On the other side of the distribution, nearly 25 percent were more accurate, but only one of these was a class apart from us in accuracy.

But to provide a more inclusive basis for evaluating the forecast we made a year ago we need to focus on the dynamic and substantive details in the message we were presenting. Let's first consider the quarterly path in our forecast of real final sales, i.e., the effective demand for final goods and services. A year ago we were forecasting that final sales growth would drop sharply in the closing

TABLE 1.
"Blue Chip" Forecasts of Percent Change in Real GNP, 1987–88, as of November 1987†

Forecasters	Low	High	Average	Estimated Error (Billions of '82 Dollars)‡
Highest Forecast	—	3.9	3.9	−3
Next 11	2.9	3.3	3.1	27
Next 3 (Includes RSQE)	**2.8**	**2.8**	**2.8**	**39**
Next 12	2.3	2.6	2.5	51
Next 12	1.2	2.2	1.6	85
Lowest 10	−2.0	1.1	−0.2	154
Blue Chip Consensus	−2.0	3.9	1.9	74

†Data in first three columns calculated by RSQE from Robert J. Eggert, editor, *Blue Chip Economic Indicators*, November 10, 1987, page 3.

‡Based on current RSQE forecast of real GNP at 3993.7 billion 1982 dollars for 1988.

*This article is adapted from Dr. Hymans' presentation to the 36th annual Conference on the Economic Outlook at the University of Michigan in November 1988. The editor wishes to thank RSQE associates Morag Nairn and Michael R. Donihue for their technical assistance in presenting the article here.

quarter of 1987 and then bounce back up in the first quarter of '88. That was the kind of post-crash reaction we were anticipating, and it's exactly what happened. Indeed, our only serious error in forecasting the pattern of real final sales came in the second quarter. Final sales growth continued up sharply in the second quarter, before returning to a more sustainable pace in 1988:3, a quarter later than we had forecast.

While we may have anticipated much of the basic pattern and magnitude of final demand for the half-year following the stock market crash, we certainly missed in dramatic fashion in our forecast of inventory investment. Inventory stocks accumulated at twice the rate we expected in the last quarter of '87 and at three times the rate we expected in 1988:1. We were much closer in the middle two quarters of the year but missed the drop now anticipated for the current quarter, much of which is due to the summer drought. Despite the bearishness that dominated the financial and general news media for months after the crash, producers just kept filling the shelves. Part of what we had missed was the existence of a relatively low stock/sales ratio outside of the automobile sector in mid-1987. This might have provided the incentive to take advantage of the stall in demand to build some desired stock on the very presumption that the stall in demand would only be temporary.

Combining the dynamics of forecast and error in final demand and inventories provides the perspective of localizing most of our forecast error into 1987:4. By missing on inventory accumulation in the last quarter of '87, we started 1988 from far too low a level of output. And our overpredictions for the second half of '88 — much the result of the unanticipated drought effects — weren't nearly large enough to compensate. In effect, we had a poor forecast of the year-over-year change in real GNP precisely because we followed a big start-up error with a relatively accurate forecast of the subsequent within-year pattern.

In general, inflation seems to have been held more in check than we had expected a year ago — even if, as will be noted below, it appears to be high enough to have generated some concerns at the Federal Reserve Board — and that's the case despite the price effects of the drought. One source of the error in our inflation forecast is the fact that, throughout the year, the U.S. dollar has been stronger than we had expected.

We expected the dollar to weaken over the year, which it did, but we missed the mid-year run-up in value, which ended in late summer. The dollar's climb in the spring and summer followed the Fed's decision to switch to credit tightening in the spring. This appears to have been precipitated by the conclusion at that time that the crash was not being followed by a recession and that, indeed, a possible renewal of inflationary pressures seemed much the more likely problem for the monetary authorities to be concerned about. If right, this implied a switch to tighter credit and higher interest rates. If our major trading partners let our rates rise in relative terms — and the evidence is that they did — this would imply upward pressure on the value of the dollar, an anti-inflationary bonus but a road-block on the way to continuing progress on improving our real trade balance. There is evidence that both the good and the bad effects of a stronger dollar are indeed being realized: the inflation rate hardly seems to be on a tear, while imports do seem to have spurted up a bit most recently.

In view of all that has already been noted in reviewing last year's forecast, we limit our remarks in connection with the data in Table 2 to a very few. Our underprediction of the level of consumption (and most of its components) is very much the consequence of starting the forecast off at too low a level of output, hence employment, income payments, and consumer purchasing power. We committed serious, though approximately offsetting, errors in forecasting real net exports and investment in producers' durable equipment. We expected a bigger improvement of our real trade balance than has materialized. Real exports grew by more than we had forecast, but so too did imports, and by an even greater margin. The sharp growth of investment in production equipment and other forms of producers' durables, including computers and related equipment, is a welcome sign after several years of generally lackluster investment activity of the kind needed to enhance our productive capacity and international competitiveness. Finally, note that the federal deficit is almost $20 billion lower than we had forecast. Our forecast was accurate to within $2 billion on the expenditure side of the budget, but our underprediction of incomes left us with a substantial corresponding underprediction of revenues.

The Economy in Late 1988

As already noted, important aspects of a dynamic forecast can be thrown permanently off if the forecast begins on the wrong trajectory. Understanding the current state of the economy, and successfully communicating that understanding through the inputs of our econometric model, is thus a critically important first step in generating our economic forecast.

We expect real GNP growth at just under 2 percent for the current quarter, and at just over 3½ percent for the first quarter of next year. In a literal sense, this means that the growth retardation evidenced in the third quarter of this year is projected to continue in the fourth quarter, but to reverse itself right after the first of the year. That, however, would substantially misrepresent the difference between these two quarters. A better sense of what we are forecasting can be seen by considering the predicted path of real final sales (excluding sales of agricultural stocks by the Commodity Credit Corporation, CCC): namely, an annualized growth rate of 2.8 percent in *each* of 1988:4 and 1989:1. In effect, then, the growth of final demand is seen to have dropped from a 5.5–6 percent pace during the first half of this year to a pace in the 2–3 percent range for the second half of this year and early next year. The GNP gyration in our forecast is basically a reflection of the effects of last summer's drought. We expect the fourth quarter to show the year's biggest drop in real farm inventories — even with CCC sales continuing at a relatively high level — which produces an artificially low growth of GNP for this quarter. The lower pace of liquidation of farm inventories expected for 1989:1 then produces the reverse, an artificially high growth rate at the start of next year.

TABLE 2. Review of RSQE Forecast For 1988

Economic Indicators	1986–87 Actual	1987–88 Predicted	1987–88 Current Estimate	1987–88 Forecast Error
CHANGES				
Real GNP & Components (Billions of 1982 $s)				
GNP	125.3	109.6	146.7	37.1
Personal Consumption Expenditures	65.8	50.0	68.2	18.2
Durable Goods	5.9	7.1	18.3	11.2
Nondurables	11.0	6.9	7.3	0.4
Services	48.8	36.0	42.6	6.6
Producers Durable Equipment	15.8	7.1	45.7	38.6
Nonresidential Construction	−3.8	2.0	−0.4	−2.4
Residential Construction	0.2	−3.8	−5.2	−1.4
Inventory Investment	19.0	−6.5	5.2	11.7
Net Exports	8.6	55.8	31.1	−24.7
Exports	49.4	40.1	72.9	32.8
Imports	40.8	−15.8	41.8	57.6
Government Purchases	19.7	4.9	2.3	−2.6
Prices and Incomes (Percent Changes)				
Private Nonfarm Sector				
Hourly Compensation	3.8	4.6	4.6	0.0
Unit Labor Cost	3.1	3.3	3.3	0.0
Price Deflator	2.9	3.9	2.7	−1.2
Personal Consumption Deflator	4.5	5.1	4.1	−1.0
Exchange Value of U.S. Dollar	−13.7	−10.5	−4.2	6.3
Real Disposable Income	1.7	1.9	3.6	1.7
Corporate Profits (with IVA and CCA)	3.8	2.5	5.6	3.0
LEVELS IN TERMINAL YEAR				
Civilian Unemployment Rate (Percent)	6.2	6.0	5.5	−0.5
3-Month Treasury Bill Rate (Percent)	5.8	5.6	6.6	1.0
Corporate Aaa Rate (Percent)	9.4	9.9	9.7	−0.2
FHA Mortgage Rate (Percent)	10.2	10.2	10.4	0.2
Personal Saving Rate (Percent)	3.2	3.5	4.1	0.6
Auto Sales (Millions of units)	10.3	10.2	10.7	0.5
Import Share (Percent)	31.1	32.0	29.0	−3.0
Federal Deficit (Billions of Dollars, Fiscal Year)	163.5	167.8	149.0	−18.7

The continued and steady growth of final demand which we are forecasting for this quarter and next is paced by:

- Continued strength in business capital purchases, up at an annual rate of 5⅓ percent.
- A modest strengthening of residential construction activity in response to the recent drop in mortgage rates.
- A renewed improvement in our real net export position late this year and early next year, following the stall which developed along with the sharp turnaround in interest rates and the value of the dollar in the spring and summer.

Consumer purchasing activity is expected to follow along, not to lead the expansion of demand over the coming half year — car sales are forecast to be edging down a bit, and the personal saving rate moves slightly upward. The overall growth of economic activity which this implies holds the unemployment rate at just about 5½ percent through the first quarter of next year.

Clearly, at this stage of our economic expansion, with aggregate unemployment near 5½ percent and capacity utilization at about 84 percent, we would hardly look for final demand growth to continue at a rate above three percent. The 2.8 percent turn-of-the-year demand growth in our forecast is probably close to the peak rate that our capacity

growth can service, especially if we expect it to be accompanied by improvements in real net exports. A sustained attempt to exceed such a growth rate would surely produce increasing inflationary pressures.

Inputs to the Forecast

Fiscal Policy. The Balanced Budget and Emergency Deficit Control Reaffirmation Act of 1987 set revised deficit targets for fiscal years 1988 through 1993 and amended the sequester procedures of the Balanced Budget Act (Gramm-Rudman-Hollings) of 1985. The deficit targets are $136 billion for fiscal 1989 and $100 billion for fiscal '90. The Office of Management and Budget has estimated that the fiscal '89 budget deficit will be just under $146 billion, which falls within the $10 billion margin of error allowed by the GRH Reaffirmation Act. Hence, no cuts are required for the current fiscal year.

For fiscal 1990, our federal budget projections include budget action to reduce the deficit by $25 billion. Without such action, a business-as-usual budget (allowing for inflation and program participation changes) would, in the context of our forecast, produce a $132 billion (NIPA basis) deficit. The deficit reduction in our control forecast is accomplished with a combination of spending reductions totaling $17.5 billion for fiscal '90 and a $10 billion increase in personal taxes starting in January 1990. The expenditure reductions include a $1.6 billion reduction in nondefense purchases, a $5.5 billion reduction in subsidies, an $8.1 billion reduction in grants-in-aid to state and local governments, and a $2.3 billion reduction in federal government transfer payments. Note that these are all reductions *relative* to the increases that would otherwise occur "naturally."

We are assuming that the personal tax increase can be accomplished through changes that can fairly be characterized as technical corrections to the Tax Reform Act of 1986. The most substantial change involves amending the technical error which allows families with taxable incomes above $200,000 (or individuals with taxable incomes above $105,000) to pay taxes at a marginal rate of 28 percent while those with *lower* incomes of $75,000–$200,000 ($45,000–$105,000 for individuals) pay at the *higher* 33 percent marginal rate. This change raises taxes compared to current law only for families with incomes in excess of $200,000 (and individuals with incomes in excess of $105,000), and the Congressional Budget Office estimates that it would yield $6 billion in additional revenue in calendar 1990.

Our budget assumptions on expenditures — including the $17.5 billion "cut" for FY '90 — are summarized in Table 3. Defense spending, which increased by $15 billion (5.4 percent) in fiscal '87 but by only $8 billion (2.6 percent) in fiscal '88, is projected to increase by $7 billion (2.3 percent) in fiscal '89 and by $12 billion (4 percent) in fiscal '90.

Nondefense purchases, excluding the Commodity Credit Corporation (CCC) inventory change, increased by $3½ billion in fiscal year 1987 and by $10 billion (11.7 percent) in fiscal '88. We are projecting an increase of $6 billion (6.1 percent) in fiscal '89 and $4 billion (3.8 percent) in fiscal '90. The 1990 path holds spending flat at the level of the final quarter of fiscal 1989 except for a projected 3 percent pay increase for civilian government workers and the projected costs of additional government employment during the 1990 census effort.

The 1988 drought will continue to affect federal expenditures through CCC activity, price support programs, and disaster relief. CCC inventories, which declined by $13.8 billion during fiscal 1988, are projected to decline by $6 billion during fiscal '89, and then to increase by $4 billion in fiscal '90. While these swings in CCC inventories result in abnormal movements in total government purchases, they do not affect GNP because they are offset by opposite changes in farm inventories (relative to levels determined by farm production and consumption). Subsidies less the current surplus of government enterprises, which reflect drought relief payments during the current quarter, are projected to total $30.4 billion in fiscal '89 and $22.5 billion in fiscal '90.

TABLE 3. Federal Government Expenditures in the National Income and Product Accounts (Billions of Dollars)

Totals and Components	Actual	RSQE Projections	
	Fiscal 1988*	Fiscal 1989†	Fiscal 1990†
Federal Expenditures	1113.2	1163.9	1222.2
(Percent Change)	(5.2)	(4.6)	(5.0)
Purchases of Goods and Services	381.2	401.9	428.2
National Defense	297.6	304.6	316.9
Nondefense	83.6	97.3	111.3
CCC Inventory Change	−13.8	−6.0	4.0
Other Nondefense	97.4	103.3	107.3
Transfer Payments	433.7	458.7	490.8
Unempl. Benefits	13.6	14.3	16.0
Grants-in-Aid to State and Local Governments	108.1	113.6	112.1
Net Interest Paid	151.1	159.2	168.7
Subsidies Less Current Surplus of Gov't. Enterprises	39.2‡	30.4	22.5
Federal Receipts	964.2‡	1022.8	1111.2
Deficit (−)	−149.0‡	−141.0	−111.1

*Data for fiscal 1988 are from the *Survey of Current Business*, October 1988.

†RSQE projections and Control Forecast for fiscal years 1989 and 1990.

‡The subsidies less current surplus of government enterprises, receipts, and deficit components for 1988:3 are RSQE projections.

Federal transfer payments to persons, which increased by $23 billion in fiscal 1988, are projected to increase by $25 billion in fiscal '89 and by $32 billion in fiscal '90. These estimates include outlays for the early stages of catastrophic health insurance. The fiscal 1990 projection also includes $3 billion in program cuts in calendar 1990. Grants-in-aid to state and local governments, which increased by $5 billion in fiscal '88, are projected to increase by $5½ billion in fiscal '89, but to decline by $1½ billion in fiscal '90 as a result of budget cutting efforts mandated by the revised deficit reduction targets.

Taken together, our fiscal assumptions hold total federal expenditures to increases of 4.6 percent and 5 percent for fiscal years '89 and '90, respectively — about "flexible freeze" proportions. The bottom line for the federal budget implied by our forecast — including higher taxes and expenditure restraint — is a federal deficit which declines from an estimated $149 billion in fiscal '88 to $141 billion in fiscal '89 and $111 billion in fiscal '90.

We are projecting that state and local government purchases will increase at a 7.5 percent annual rate during fiscal '89, and that, on a business-as-usual path of federal grants, state and local government purchases would increase at a 7 percent annual rate in fiscal '90. However, our budget reduction assumptions reduce federal grants by $8 billion. We assume that state and local governments will protect their own budgets through a combination of lower purchases and transfer payments during fiscal '90.

Monetary Policy. The Fed's concern in recent months has centered on the risk of inflationary pressures in the U.S. economy resulting from rising levels of capacity utilization and continuing low levels of unemployment. As a result, the Fed began to push up short-term interest rates in March and raised the discount rate from 6 to 6.5 percent in early August. We anticipate that the Fed's continuing concerns about inflationary pressures will result in another increase in the discount rate to 7 percent in the middle of the first quarter of 1989.

The rate of growth of the monetary base declined from 8.6 percent at annual rate during the first quarter of 1988 to 6.3 percent at annual rate during the third quarter. We expect that the Fed will allow the monetary base to grow at a 5 percent annual rate throughout the forecast horizon.

We further project that the Fed will act to offset the fiscal tightening that is projected to begin in the fourth quarter of 1989 by bringing the discount rate back down to 6.5 percent. As in the earlier projected increase in the discount rate, we are assuming that the U.S. will act alone in nudging interest rates back down at the start of fiscal year 1990. Consequently, by mid-1990 U.S. short term interest rates will have depreciated relative to foreign rates, thus returning approximately to their current relative position.

Non-oil Prices. We are expecting the foreign-currency prices of our non-oil imports to fall during the current quarter in response to the recent decline in the value of the dollar, but to be rising at a 4 percent annual rate by late 1989. With the trade weighted value of the dollar forecast to decline during the next two years, the dollar price of non-oil imports will be contributing an upward push to U.S. inflation rates.

Oil Prices. Most OPEC members have been producing more oil than is specified in their quotas. The current quotas, totaling 17.5 million barrels per day, were set up in December 1986 with a target price of $18 per barrel. Recent production has exceeded 20 million barrels per day. OPEC's overproduction, combined with high levels of non-OPEC oil production, has resulted in a world crude oil glut. Consequently, oil prices, which averaged $16 to $17 per barrel during the first half of 1988, are now in the $13 to $14 per barrel range. Failure of OPEC members to reach a new agreement to limit production could result in oil prices falling even further.

The October OPEC strategy session in Madrid did not produce a new production cutting accord, but the oil ministers there did at least pursue the general outline of a plan to reduce production, and Iran and Iraq appeared to adopt a more conciliatory attitude toward each other. We expect continuing efforts by OPEC members to resolve pricing and output strategy differences and, hence, we are assuming that oil prices will firm in the $15 per barrel range in early 1989. With a somewhat higher, but more sustainable OPEC quota level, oil prices are projected to rise at 2–3 percent annual rates during most of 1989 and then to rise at a 4 percent annual rate during 1990.

The Drought and Farm Prices. The U.S. suffered its most severe drought in half a century this past summer. The corn and soybean crops were severely affected, and the spring wheat crop was reduced as well. Year-end stocks of these crops are expected to be severely depleted. A record 78.4 million acres of farmland were removed from production in 1988 under government set-aside, Conservation Reserve, and other land-idling programs. Land-idling programs are expected to be substantially reduced in 1989 to allow farmers to plant increased acreage. Even with a substantial increase in acres planted and assuming normal weather conditions, year-end stocks are expected to remain at very low levels at the end of the 1989 harvest year.

Farm prices, as measured by the implicit price deflator for gross farm product, increased at nearly a 50 percent annual rate from the first to the third quarter of 1988. We expect farm prices to remain level during the current quarter, to decline a bit in the first quarter of 1989, and then to rebound to current levels during the second and third quarters of 1989 largely due to higher meat prices reflecting the higher slaughter rates during the summer drought. Thereafter, we expect farm prices to be increasing at a 4 percent annual rate.

We now turn to the forecast for 1989–90 which results from the combination of our input assumptions, recent economic conditions, and our econometric model.

Overview of the Control Forecast

Our Control Forecast for 1989–90 is summarized on a calendar year basis in Table 4. The first line of the table indicates that 1989 and 1990 are forecast to be years seven

TABLE 4. Overview of RSQE Control Forecast for 1989–90

Economic Indicators	1988	1989	1990
Percent or Percent Change			
Growth of Real GNP (1982 Dollars)	3.8	2.9	2.4
Civilian Unemployment Rate	5.5	5.5	5.6
Rate of Inflation (Consumption Deflator)	4.1	4.8	5.5
3-Month Treasury Bill Rate	6.6	7.1	6.4
Growth of Real Disposable Income (1982 Dollars)	3.6	2.3	0.7
Profits* as a Percent of GNP	6.8	6.2	6.1
Automobile Sales (Millions of Units)	10.7	10.4	10.6
Import Share of Auto Sales (Percent)	29.0	28.8	29.9
Increase in Real Business Fixed Investment (Billions of 1982 Dollars)	45	27	19
Percent Decline in Exchange Value of U.S. Dollar	4.2	0.8	2.5
Increase in Real Net Exports (Billions of 1982 Dollars)	31	12	19

*Includes IVA and CCA.

and eight of the post-1982 economic expansion. Compared to the 3.8 percent growth of real GNP now estimated for this year, however, we are forecasting considerably slower growth for the next two years: 2.9 percent for next year, and only 2.4 percent for 1990. The latter, if realized, would mark 1990 as the slowest growth year of the entire expansion. As shown in the second line of the table, output growth of a little under 3 percent holds the unemployment rate steady, while output growth of a little under 2½ percent is accompanied by a rising unemployment rate, though the extent of the rise in unemployment forecast for calendar 1990 is minimal.

Along with the continued economic expansion, we are anticipating somewhat higher rates of inflation over the next two years. As measured by the implicit price deflator for consumer goods and services, we are forecasting inflation rates of 4.8 and 5.5 percent for calendar '89 and '90, respectively, up from 4.1 percent for this year. With three straight years of unemployment at just about 5½ percent, a 1988 drought affecting food prices well into 1989, oil prices assumed to begin rising again, and the prices of most imported consumer goods rising at above average rates as the U.S. dollar continues to depreciate, the step-up in the rates of increase of average consumer prices forecast for 1989 and '90 should come as no surprise. We put off just until the next section any discussion of whether our forecast should be interpreted to mean that an "inflation problem" is on the horizon.

Continuing with the overview in Table 4, we see the interest rate pattern dominated by our monetary policy assumptions. The treasury bill rate is forecast to average 7.1 percent in 1989, but to be down to an average of 6.4 percent the year after. The growth of real disposable income is forecast to be down to 2.3 percent next year, compared with 3.6 percent estimated for this year, and to be down to only 7/10 of one percent for 1990, due to the combination of a slower growth economy and the higher personal taxes which are part of the assumed fiscal '90 budget package. Corporate profits (including inventory valuation and capital consumption adjustments) are projected at a bit over 6 percent of GNP for each of the next two years.

Additional detail regarding some of the more important output-related variables in the Control Forecast is shown in the bottom section of Table 4. Auto sales are forecast to slip from 10.7 million units this year to 10.4 million units next year, reflecting, in part, the sensitivity of auto sales to higher interest rates. Car sales edge back up to 10.6 million units for calendar 1990 as lower interest rates take hold. The import share of car sales is forecast to stay at about 29 percent again for 1989, but to edge up to nearly 30 percent for 1990 as the price of foreign relative to domestic cars begins to stabilize.

Continued increases in real business capital spending are forecast over the next two years, but by far smaller amounts than during this year, which witnessed an especially big increase in business computers and related equipment. It should be noted that the huge jump in capital purchases this year brought real business fixed investment up to 12.3 percent of real GNP from 11.6 percent in each of 1986 and 1987. The continued investment increases shown in Table 4 raise the investment/GNP ratio to 12.6 percent next year and 12¾ percent the year after — ratios which are quite high by historical standards. Finally, although the U.S. dollar is forecast to continue to depreciate in 1989, the year-over-year change is small as the higher level of interest rates forecast for the first half of next year slows down the rate of dollar depreciation. A higher rate of depreciation is posted for calendar 1990 as the Fed's assumed response to fiscal tightening permits interest rates to move down. Consistent with this pattern of dollar depreciation, we forecast a far smaller improvement in real net exports in 1989 than occurred this year, but a larger gain in 1990 than in 1989.

The overview that is based on calendar year data raises several important questions. Among them: is the expansion stalling out by 1990, is inflation behaving in such a way as to represent an increasingly serious problem, are we getting close to an international balance, and so on? These and other matters are better addressed by considering the quarterly path of the Control Forecast, to which we now turn.

The Quarterly Path in the Control Forecast

A number of the more important dynamic aspects of the Control Forecast are summarized in Charts 1–6. We begin with Chart 1, which plots the forecast paths for the growth rates of real GNP and real Final Sales (excluding CCC activity). We are forecasting near-term growth of final demand at an annual rate of 2.8 percent, well below the 5.5–6 percent rates of the first half of this year. Beyond the near term we are forecasting another small step downward, with final demand growth generally in the range of 2 to 2½ percent after the first quarter of next year and averaging 2¼ percent over the seven quarter period 1989:2–1990:4. Once the gyrations due to the drought and its inventory implications have worked themselves out, it becomes clear that real GNP growth is also forecast to move into the 2 to 2½ percent range.

There is no paucity of ways to evaluate the desirability of any contemplated path of output growth, including that shown in Chart 1. A way that comes quickly to mind, of course, is to ask "What does it mean for unemployment and inflation?" Chart 2 deals precisely with that question. For most of the forecast horizon the civilian unemployment rate remains in the narrow range of 5.4–5.5 percent. By the second half of 1990, however, the unemployment rate begins to drift upward in response to output growth pegged at less than 2½ percent. By the closing quarter of 1990, we have unemployment averaging 5.7 percent.

Corresponding to this stable-to-slightly-up path of unemployment is a forecast inflation path which goes from about 3½ percent currently, to a little over 4 percent by early 1990, and then appears to top out at just under 4.4 percent for the balance of 1990. There is nothing peculiar in the internals of the forecast which imply that the inflation behavior shown for the final three quarters of 1990 should be regarded as a temporary lull. Inflation is *not* forecast to be accelerating during 1990. Indeed, the combination of a bit of upward drift in unemployment, and a rate of capacity utilization in manufacturing which we forecast to be stable at just over 85 percent throughout 1990, imply that *no more* than the late '90 inflation rate would carry into early 1991.

The inflation rate featured in Chart 2 is that pertaining to the private nonfarm sector of the economy — essentially the core industrial inflation rate. This, rather than consumer price inflation, is the most appropriate for considering the question of the degree of inflationary momentum in the system. Consumer price inflation will be running at a higher rate, of course — about 5½ percent in the second half of 1990 — but it too will have begun to stabilize.

Charts 3 and 4 focus on the dynamics of the foreign sector. As shown in Chart 3, the dollar will keep declining in value as part of the process of continuing to shrink our trade deficit. The *rate* of decline stalls a bit in response to the assumed rise in U.S. interest rates relative to foreign rates early next year, but it picks up again when interest rates come back down a year from now. The dollar is forecast to be declining at a rate of nearly 3 percent during most of 1990. The other two prices shown in Chart 3 are the dollar price of non-oil imports and the foreign currency price of U.S. exports. The price we will have to pay to

CHART 1. Annual Rate of Growth of Real GNP and Real Final Sales (Excluding CCC)

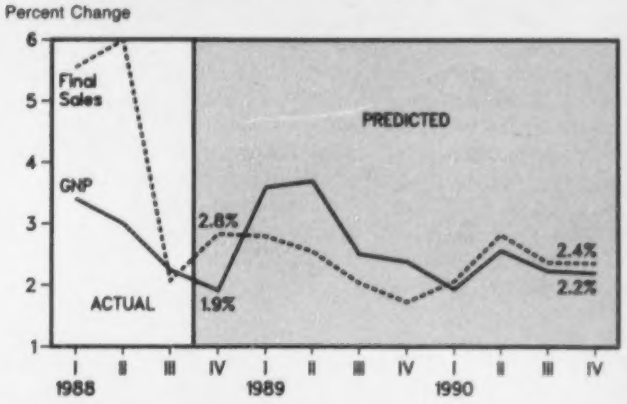


CHART 2. Civilian Unemployment Rate and Inflation Rate (Private Nonfarm Sector)

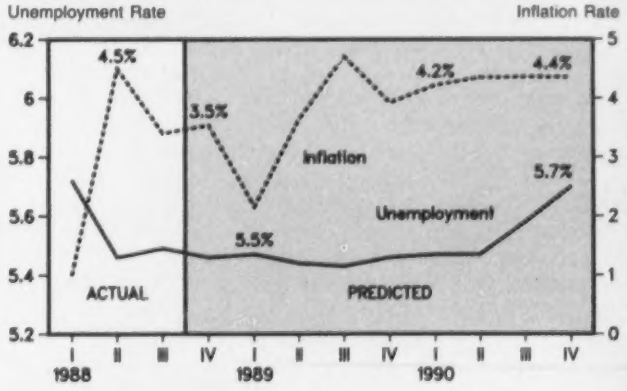
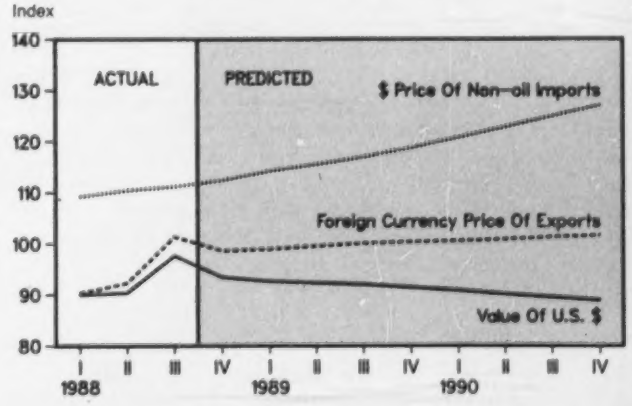


CHART 3. Foreign Sector: Prices



import is clearly inflating a good deal more than the price our trading partners will have to pay to import from us. That, of course, is the effect of the depreciating dollar, and it is a prime factor in the outlook for continued improvement in our real trade balance, which is shown in Chart 4. The deficit of 55 billion 1982 dollars (annual rate) which we are forecasting for the end of 1990 represents but half

the size of the real trade deficit at the start of 1988. Real exports grew by 13 percent in calendar 1987, and they'll be up about 17 percent this year. That pace can't continue, but it doesn't have to as long as import growth continues to moderate. In the Control Forecast, real export growth averages 7½ percent at annual rate between 1988:4 and 1990:4. Real imports, on the other hand, increase by 4.3 percent during 1989, and by only 2.2 percent during 1990, under the combined effects of faster dollar depreciation and slower domestic growth. Although not shown on the chart, the nominal trade deficit improves over the forecast horizon as well, but only *very* slowly. We estimate a $91 billion nominal trade deficit for 1988, and a drop only to $81 billion for 1990.

The dynamics of interest rates in our Control Forecast are shown in Chart 5. Three-month treasury bill rates, which we believe would have been edging down throughout 1989:1 but for the assumption of mid-quarter tightening by the Fed, move up to a 7½ percent average for the quarter. The bill rate eases off in the late spring and summer — averaging just over 7 percent for the summer quarter of '89 — and then drops to about 6.3 percent a year from now as the Fed eases monetary conditions in response to the fiscal tightening required to meet the deficit reduction target for fiscal 1990. Long-term interest rates, both corporate and mortgage rates, are already declining, and we expect that to continue until the Fed tightens early next year. We expect most long rates to be up a bit in response to the tighter Fed policy, with mortgage rates up about 30–35 basis points over the first half of next year. This will be temporary, however, and mortgage rates are forecast to be back down to their current levels about a year from now. This pattern of rates implies, for example, that residential building activity will continue its current slow recovery pace through the first quarter of next year, stall again for most of the rest of the year with housing starts ending 1989 at just over 1.4 million units (annual rate), and then begin to recover again at the turn of the year.

Chart 6 provides two views of the federal budget deficit. The budget deficit, currently in the range of $140–150 billion (annual rate, NIPA basis), is forecast to be down to an annual rate of about $130 billion a year from now. With our fiscal policy assumptions the federal government is GRH-legal for fiscal 1990, with the deficit falling to an annual rate below $90 billion two years from now. It is useful to remember that the social insurance account in the federal budget is currently running an annual surplus of about $50 billion, and will be up to about $65 billion two years from now, so that our structural budget deficit will still be close to $155 billion even in fiscal 1990.

What if we didn't take a $25 billion fiscal "hit" in 1990? Wouldn't we just have a stronger economy? Is it really worthwhile to close the budget gap? We consider these questions in the next section.

CHART 4. Foreign Sector: Trade Flows

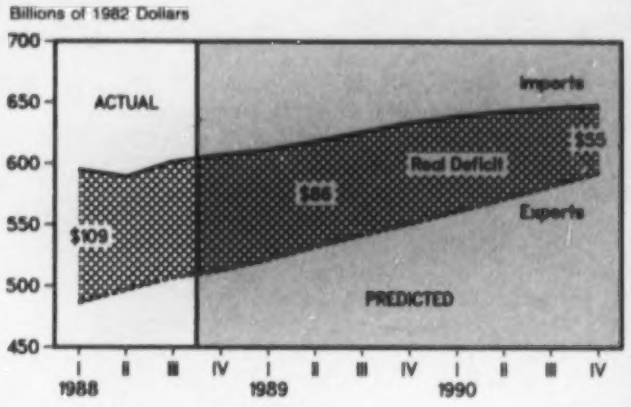


CHART 5. Interest Rates

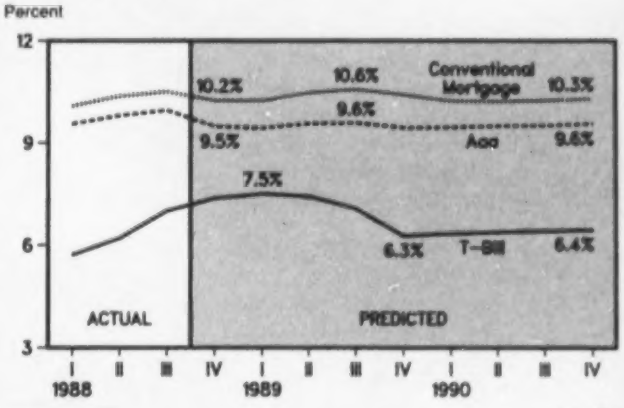
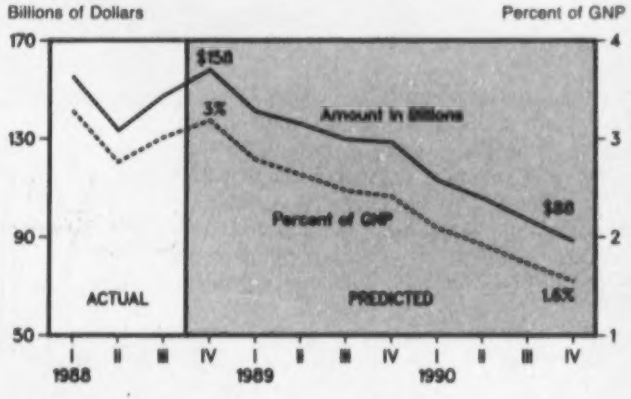


CHART 6. Federal Government Deficit (NIPA Basis): Amount and Percent of GNP



The Cost of Fiscal Tightening in 1990

As explained in the discussion of the inputs to our Control Forecast, we have assumed implementation of federal spending cuts and a personal tax increase in fiscal year 1990. We have made these spending cuts relative to projected spending levels that include increases for inflation and scheduled program participation in currently legislated federal programs. In the absence of fiscal tightening in 1990, we would assume that the Fed would find little reason to lower interest rates — the discount rate would

CHART 7. Federal Government Deficit

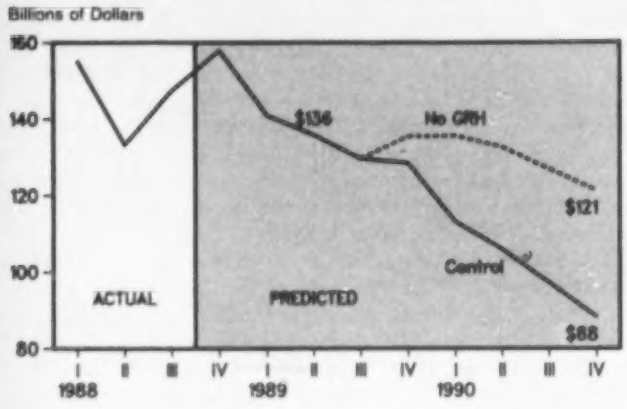


CHART 8. Annual Rate of Growth of Real GNP

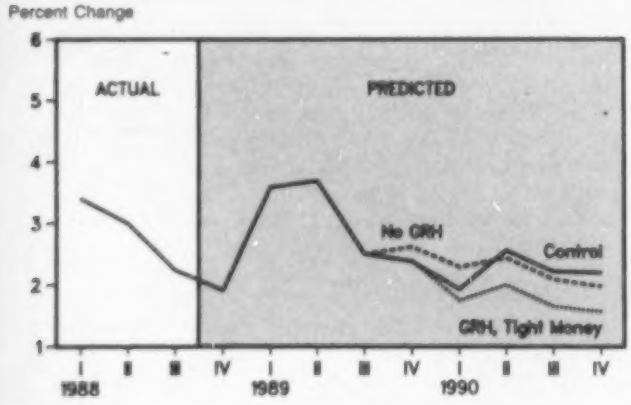
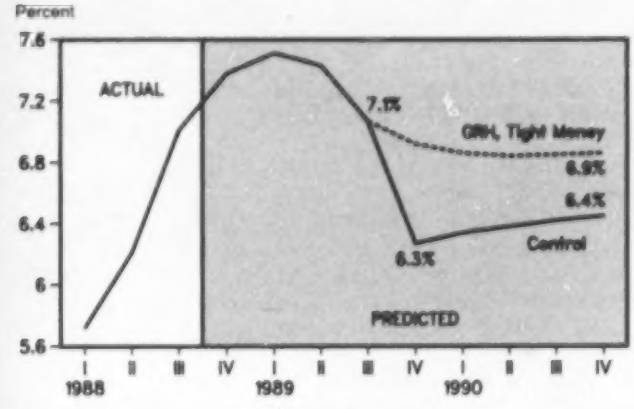
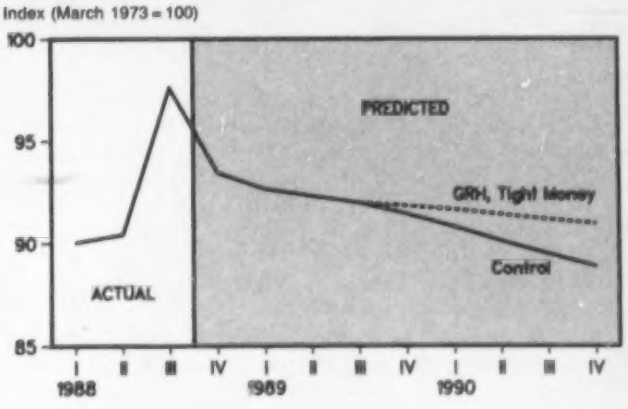


CHART 9. Three-Month Treasury Bill Rate



remain at 7 percent — and the appreciation of U.S. interest rates relative to foreign rates would thereby be maintained. Chart 7 compares the projected federal deficit in our Control Forecast to the deficit that would occur, in the context of our other input assumptions, if the GRH federal deficit target for 1990 were ignored. The federal deficit

CHART 10. Exchange Value of the U.S. Dollar



is reduced by $21.5 billion for fiscal year 1990 as a result of the assumed new policy mix with tighter fiscal and easier credit conditions, and the deficit at the beginning of fiscal year 1991, at $88 billion, is lower by $33 billion than would be the case without the fiscal tightening. With the fiscal '91 GRH target at $64 billion, still more fiscal moves might be required for FY '91.

What does it cost to comply with the GRH federal deficit target in fiscal '90? Chart 8 compares the growth path of real GNP in our Control Forecast to the growth path of real GNP implied in our alternative forecast assuming a business-as-usual federal budget that ignores the GRH target. The fiscal-tightening-with-monetary-easing policy of our Control Forecast reduces real GNP growth in the final quarter of '89 and the first quarter of '90 relative to real GNP growth in the "no GRH" forecast. By the second quarter of 1990, however, the policy mix in our Control Forecast results in a higher real GNP growth rate, and the growth rate remains higher through the end of 1990. The level of real GNP at the end of 1990 is virtually the same in our Control Forecast as in the "no GRH" alternative.

How important is the easier monetary policy that we have assumed accompanies the fiscal tightening in 1990 in our Control Forecast? Chart 8 shows that in an alternative forecast with the same fiscal tightening, but without the accompanying monetary ease assumed in our Control Forecast, the real GNP growth rate would remain lower *throughout* the forecast horizon. The cost is nearly $11 billion in the level of real GNP for calendar 1990, with the level of real GNP lower by $20 billion at the end of 1990 in the "tight money" alternative. The unemployment rate, over 5.8 percent compared to 5.7 percent in our Control Forecast at the end of 1990, is correspondingly higher as well.

Charts 9 and 10 compare interest rates and the value of the dollar in our Control Forecast and in the "tight money" alternative. Short-term interest rates, as measured by the 3-month treasury bill rate, are 45 basis points higher in calendar '90 in the "tight money" alternative than in our Control Forecast. The trade weighted value of the dollar falls by only 9/10 of one percent during 1990 in the "tight money" alternative compared to a 2.8

percent decline in our Control Forecast. The higher value of the dollar in the "tight money" alternative results in higher real imports, but (temporarily) in a lower nominal import bill.

Charts 11 and 12 compare the real and nominal trade deficits in our Control Forecast and in the "tight money" alternative. The real trade deficit is smaller in our Control Forecast, declining from $82½ billion in the fourth quarter of '89 to $55 billion in the closing quarter of 1990. In the "tight money" alternative, the real trade deficit is $10 billion higher at the end of 1990. The *nominal* trade deficit, however, is initially lower in the "tight money" alternative. The difference reaches $3 billion in the first quarter of 1990, but has virtually disappeared by the end of 1990 — the familiar J–curve effect of a change in prices or exchange rates.

CHART 11. Real Trade Deficit

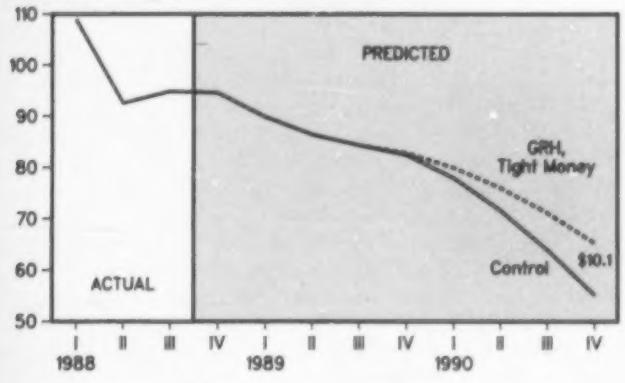
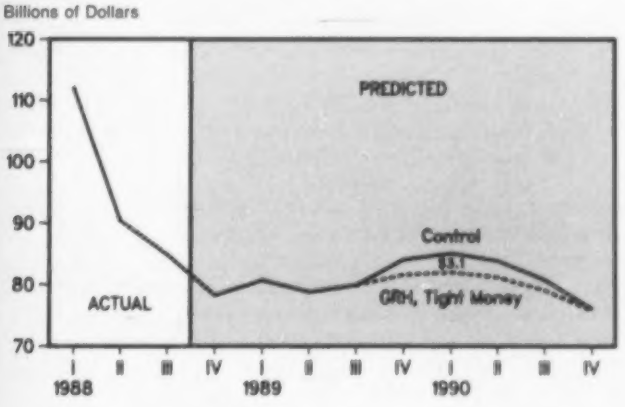


CHART 12. Nominal Trade Deficit



Final Thoughts

America will soon inaugurate its 41st president. We last changed regimes eight years ago, when President Reagan came on like gang-busters with a huge change in federal fiscal policy, just as he had promised. We took a look back at the Proceedings of the November 1980 Outlook Conference to see how well, or badly, we had anticipated Reaganomics. We had assumed fairly quick passage of a 10 percent personal income tax cut to become effective after the middle of 1981. We were close on the timing of the tax bill's passage, but way low on the magnitude of the cut; and we missed, of course, on the three-step phase-in. In the same analysis we said in regard to any tax cut package aggregating significantly more than 10 percent, "...we assume that a series of tax cuts, unaccompanied by expenditure reductions is unlikely to be forthcoming,..." and was that ever wrong! A year later, when we knew lots more about the dimensions of Reaganomics, we discussed the fiscal policy debate then in progress, in these words, as reported in the Proceedings of the November 1981 Outlook Conference,

> "The partisan ... debate centers on whether the expansionary impact derived from the supply-side effects on income will be so enormous as to offset the policy-induced swing toward larger deficits and in fact produce shrinking deficits. For a brief period of time, the pushers of this fanciful notion won over some converts in high places. The fad does appear to be petering out, but it has already had a mischievous effect on economic policy...."

The analysis continued on to worry about the high interest rates that would inevitably result, and predicted a fiscal 1982 budget deficit of $102 billion, compared with OMB's $41 billion and the $113 billion which materialized.

We were right in 1981, and so was George Bush the year before when he spoke disparagingly of "voodoo economics." If we do care about the standard of living which future generations will be able to afford, if we do care about who will own and shape the resources of tomorrow's America, then it's none too soon to make the restoration of fiscal sanity — which has indeed characterized most of our history — priority number one.

We're all able to hear the defense establishment; it will protect itself, and presumably us, as it should. But someone has to hear the little people, the quiet voices. And if they too are to be protected — and better than they have been recently — then there's no way that fiscal responsibility can be attained through realistic policies restricted to the expenditure side of the federal budget.

We need the leadership which can make that case with credibility, so that the Congress can legislate it, and the people with the capacity to be taxed a bit more each can support it. That's George Bush's crowd; he has the credibility, and perhaps he'll even use it for the benefit of our and his grandchildren.

TABLE 5. Selected Economic Indicators as Forecast by RSQE, November 1988

Seasonally adjusted data, billions of current dollars unless otherwise indicated

	QUARTERLY DATA										ANNUAL DATA			
	Actual	Projected									Projected			
													% Changes	
ECONOMIC INDICATORS	88:3	88:4	89:1	89:2	89:3	89:4	90:1	90:2	90:3	90:4	1989	1990	88-89	89-90
GROSS NATIONAL PRODUCT	4,900	4,969	5,060	5,155	5,243	5,328	5,416	5,513	5,607	5,703	5,197	5,560	7.05	6.99
PERSONAL CONSUMPTION EXPENDITURES	3,258	3,305	3,364	3,421	3,479	3,540	3,601	3,670	3,739	3,808	3,451	3,705	7.13	7.35
DURABLE GOODS	453.6	460.1	463.2	467.5	471.4	476.5	482.0	491.6	499.3	507.2	469.7	495.0	4.29	5.40
AUTOMOBILES and PARTS	211.0	213.8	213.7	215.2	216.5	219.1	222.1	228.8	233.5	238.7	216.1	230.8	3.43	6.81
FURNITURE and H.H. EQUIPMENT	159.5	162.7	165.3	167.5	169.6	171.4	173.3	175.4	177.4	179.1	168.5	176.3	5.89	4.62
OTHER DURABLES	83.1	83.6	84.2	84.8	85.3	86.0	86.6	87.5	88.4	89.3	85.1	87.9	3.37	3.37
NONDURABLE GOODS	1,058	1,063	1,081	1,097	1,114	1,130	1,146	1,164	1,182	1,200	1,106	1,173	5.99	6.07
SERVICES	1,746	1,783	1,819	1,856	1,894	1,933	1,973	2,015	2,058	2,101	1,876	2,037	8.55	8.59
GROSS PRIVATE DOMESTIC INVESTMENT	764.4	755.1	767.3	784.2	796.3	809.4	821.4	833.9	847.2	859.4	789.3	840.5	3.82	6.48
NONRESIDENTIAL	493.9	501.5	508.1	515.3	524.5	532.4	540.6	548.7	556.9	565.3	520.1	552.9	6.43	6.30
RESIDENTIAL STRUCTURES	227.6	228.7	230.1	231.5	233.1	234.8	239.3	246.1	252.2	257.2	232.4	248.7	2.21	7.03
CHANGE in BUSINESS INVENTORIES	42.9	24.9	29.1	37.4	38.7	42.2	41.4	39.2	38.1	36.8	36.8	38.9	–	–
NET EXPORTS	-84.9	-78.3	-80.7	-78.8	-79.9	-84.1	-85.1	-83.9	-80.8	-76.1	-80.9	-81.5	–	–
EXPORTS	526.3	541.4	557.4	574.2	589.4	604.6	621.6	639.5	658.0	677.2	581.4	649.1	12.75	11.64
IMPORTS	611.2	619.7	638.1	653.0	669.3	688.7	706.7	723.4	738.9	753.3	662.2	730.5	9.09	10.31
GOVERNMENT PURCHASES	962.4	986.8	1,010	1,029	1,047	1,062	1,079	1,092	1,102	1,112	1,037	1,096	7.59	5.69
FEDERAL	373.4	387.0	399.2	407.2	414.3	420.3	427.7	432.0	432.6	433.0	410.3	431.3	7.94	5.14
NATIONAL DEFENSE	294.1	298.0	304.0	307.0	309.3	311.5	316.2	318.7	321.0	323.0	306.0	319.7	3.57	3.82
NONDEFENSE	79.3	89.0	95.2	100.2	105.0	108.8	111.5	113.3	111.6	110.0	102.3	111.6	23.63	9.09
STATE and LOCAL	589.0	599.8	610.7	621.8	633.2	642.0	651.0	660.1	669.5	679.1	626.9	664.9	7.37	6.06
GROSS NATIONAL PRODUCT DEFLATOR, 1982 = 100	122.3	123.4	124.6	125.8	127.1	128.4	129.9	131.4	132.9	134.5	126.5	132.2	4.06	4.52
REAL GROSS NATIONAL PRODUCT (billions of 1982 dollars)	4,007	4,026	4,062	4,099	4,124	4,149	4,169	4,195	4,218	4,241	4,108	4,206	2.87	2.37
CIVILIAN UNEMPLOYMENT RATE (percent)	5.49	5.46	5.47	5.44	5.43	5.46	5.47	5.47	5.58	5.70	5.45	5.55	–	–
CORPORATE PROFITS plus IVA and CCA	340.0	329.0	315.0	323.6	323.9	333.4	335.8	339.7	342.7	346.6	324.0	341.2	-1.20	5.31
3-MONTH TREASURY BILL RATE (%)	7.01	7.38	7.51	7.43	7.07	6.27	6.34	6.38	6.42	6.45	7.07	6.40	–	–
REAL DISPOSABLE PERSONAL INCOME (billions of 1982 dollars)	2,794	2,819	2,834	2,847	2,854	2,859	2,857	2,865	2,871	2,877	2,849	2,867	2.31	0.66
PERSONAL SAVING RATE (percent of disposable income)	4.00	4.31	4.39	4.37	4.20	4.00	3.57	3.32	3.11	2.88	4.24	3.22	–	–

Sources: Projections by Research Seminar in Quantitative Economics, University of Michigan; actual data from Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

December Update of the Forecast

The December update of the RSQE forecast recognized the increase in interest rates which has occurred since the above forecast was prepared, and predicted that credit conditions would remain somewhat tighter through 1989–90 than was anticipated in November. As a result, interest-sensitive sectors of the economy (housing activity, auto sales, other big-ticket purchases) were expected to lag a bit below the levels forecast in November.

But the bottom line was pretty much unchanged: for both 1989 and 1990, predicted annual rates of real GNP growth, overall inflation (GNP deflator), and unemployment were all within a tenth of a percentage point of their November forecast values.

The Channel Narrows

Paul W. McCracken
Edmund Ezra Day Distinguished University Professor Emeritus
of Business Administration, Economics, and Public Policy
The University of Michigan

Optimism Rules the Forecasts

In these early weeks of 1989 optimism has been the mood of the day. Even an unexpectedly bad trade statistic in January, which not so long ago would have caused interest rates to jump and the dollar to fall, was greeted by further gains in the stock market.

While few things can generate optimism like optimism itself, in fact, no evidence has yet emerged indicating that the long expansion, beginning in 1982, is about to reverse itself. Indeed, as the new year drew closer, business analysts seemed to become even more optimistic about our prospects. The stable of economists reporting to *Blue Chip Economic Indicators* is now projecting a 2.7 percent rate of growth in output, on the average, up discernibly from the 2.4 percent average projected at mid-1988 (see Table 1). And the Organization for Economic Cooperation and Development, an international association of industrial countries, in its year-end projections forecasts a 3 percent growth in 1989 for the U.S. economy, up from their 2½ percent projection of six months earlier. Since the capacity of the economy to enlarge production is actually expanding at somewhat less than 3 percent per year, these projected rates of increase in our production of goods and services in 1989 would, if realized, mean another year at full employment for the U.S. economy.

This sanguine projection of our prospects seems to be consistent with the absence of some things that are often visible as a downturn in business activity approaches. "Leading indicators" are not wilting. Among purchasing executives the proportion reporting an increase in new orders exceeds the number reporting a decline — though the margin of difference has narrowed in recent months. New orders for machinery and equipment, acutely needed to expand capacity and improve our competitive position, are continuing to enlarge, and the backlog is growing. While our trade figures wobble around from month to month, and the November bounce of the ball went the wrong way, there was a clear trend downward during much of 1988 in our merchandise trade deficit at about a 35 percent per year rate. Further improvement in 1989 — and further improvement is clearly needed — will be limited more by the inability of U.S. industry rapidly to enlarge foreign deliveries further than by our competitive position with foreign companies.

But There Are Worries

Yet there are worries as we move into 1989. There is, of course, a wide measure of agreement that the budget deficit is too large for comfort, and the political outlook is not encouraging about our ability to bring it down to a less troublesome zone in a reasonable time (see Table 2). The president's January Budget Message does project a further decline to a small surplus by FY 1993, but that is on the basis of spending discipline that would be uncharacteristic of Washington. The Congressional Budget Office projects a FY 1993 deficit of $129 billion, on the basis of current programs, and that is closer to the track we seem now to be on. Indeed, if we were simply to rock along with the budget, doing our best in a politics-as-usual way, the FY 1993 deficit would be well above $129 billion.

TABLE 1. Projected Increases in Real GNP and Consumer Prices, 1988 to 1989

Date of Projection	Real GNP	Consumer Prices
June 1988	2.1%	4.8%
September 1988	2.4	5.0
January 1989	2.7	4.7

Source: *Blue Chip Economic Indicators*, various issues.

This much borrowing by the U.S. Treasury plus the private requirements for credit would be a larger borrowing demand than the flow of domestic saving could cover, requiring a continuing net inflow of savings from abroad. And this would, of course, mean a continuing deficit in our balance of payments on current account.

The main source of unease at this juncture, however, is another question. In 1989, will we begin to see the conjuncture, the coming together, of developments that could produce another cyclical reversal? This, after being dormant for years, is once again a lively question.

For all practical purposes the U.S. economy is now operating at full employment. We opened 1989 with the unem-

TABLE 2. U.S. Budget Surplus, 1969–1989

Fiscal Year	Amount in Billions	Percent of GNP
1969	$ 3.2	0.3%
1973	−14.9	−1.2
1977	−53.6	−2.8
1981	−78.9	−2.6
1985	−212.3	−5.4
1989*	−161.5	−3.2

*Projected.

Source: Budget of the United States Government, FY 1990, pp. 10–38.

ployment rate at just over 5 percent, and our own historical experience suggests that at this rate we have a pretty fully employed economy. Those still unemployed represent mismatches in skills required, jobs in one area of the country and those looking for jobs living in another, and people taking longer to search for new employment since we have programs to cushion the effects of interrupted earnings.

This is true in an economy whose basic capacity to produce goods and services is expanding at less than a 3 percent per year rate. By pushing it, of course, we can extract a somewhat larger increase. Output last year did increase almost 4 percent, but with an unemployment rate just under 6 percent at the start of 1988 we still had some elbow room for extra expansion.

With people increasing their spending on output at a 7 percent per year rate, in a quite fully employed economy whose basic capacity to produce is enlarging at less than 3 percent per year, the result is rising order backlogs, lengthening delivery schedules, and more upward pressures on prices. And that is what we have been seeing. Manufacturers' order backlogs are rising. In their January report, *N.A.P.M. Insight*, the National Association of Purchasing Management (a group with fingers sensitively attuned to the pulse of business) reports a wide range of lengthening delivery schedules.

And the safety valve on the price level does seem to be sputtering. The rise in consumer prices during 1988 of 4.6 percent was not, of course, a crisis. To many countries this performance would be indistinguishable from price stability. For several reasons, however, the behavior of the price level has again become worrisome. During the first two-thirds of this century consumer prices rose at the average rate of 2.1 percent per year, about the same rate as during the two decades following World War II. Thus we are not doing well even now relative to our history. And this is a major reason for interest rate levels that are persistently high relative to our history.

Moreover, and this is even more worrisome, the rate of inflation seems again to be accelerating (see Table 3). The nation emerged from the 1970s with two clear lessons about dealing with inflation. First, inflations do not die a natural death. If not countered, they will continue to pick up speed. The 4.9 percent for 1976 was perhaps tolerable, but it was followed by successively higher rates. By 1979 and 1980 we had arrived at double-digit rates, and in the early months of 1980 consumer prices were rising at a 19 percent per year pace.

Second, the only effective weapon to counter inflation is restrictive monetary policy — Federal Reserve policy. And the longer such therapy is delayed, the more severe the reaction is apt to be. In the 1970s we delayed and postponed, with the inevitable result that re-stabilization forced us to go through the severe 1981–82 recession.

There is another reason for a somewhat less expansive monetary policy in 1989. That has to do with our trade deficit. After about mid-1988 the rate of improvement in our trade deficit clearly moderated, and the final quarter of the year may have produced an actual widening of the deficit. The overly strong domestic demand for output is now playing an increasing role in our trade deficit problem, and cooling down the economy a bit is part of the needed therapy here. With demand here at home not quite so strong, imports would moderate and there would be more pressure on U.S. businesses to go after export orders with less lush domestic markets. The fundamental competitive position of the American economy is now back in line. What we now need is macroeconomic conditions which leave U.S. businesses hungrier for export orders.

The margin for error in the management of our economic policies is now narrow. There are conditions making for vulnerability on the down side. The wobbly condition of thrift institutions is an uneasy reminder of a half-century ago. Then the near-collapse of the banking system (largely the result of egregiously inept Federal Reserve policies) converted a conventional, short recession beginning in 1929 into a four-year Great Depression. The economy today is more highly leveraged. Businesses generally have higher debts, and at higher interest rates, relative to sales and profits than has been traditional in our economy. Some of these businesses would be hard-pressed to stay current with their obligations if they experienced a sharp decline in cash flow. Those managing economic policy, which means fundamentally Federal Reserve policy, cannot dismiss the possibility that what was intended to be a light touch on the brake pedal to produce a reduced rate of expansion could set in motion a cumulative contraction.

At the same time they cannot ignore the evidence that the rate of inflation is accelerating, and that domestic demand is too strong to achieve needed further large improvements in our trade balance. And procrastination, as we found a decade ago, may be a sure way to give us first unacceptable inflation and trade deficits, and then a sharp and possibly cumulative recedence in business activity.

Just because the channel has narrowed does not mean it cannot be navigated at all. Probably a year from now we shall look back on further good but not dramatic gains in employment and income and a price level behaving not too badly. The managers of economic policy, however, will have some anxious thoughts in the dark of the night, wondering where their policies are leading us.

TABLE 3. Rise in Consumer Prices

During 1970s		During 1980s	
Year	Rise	Year	Rise
1976	4.9%	1986	1.1%
1977	6.7	1987	4.4
1978	9.0	1988	4.6
1979	13.3	1989	??
1980	12.5	1990	??

Source: *Economic Report of the President*, January 1989, p. 377. The figures measure the rise during the year.

Prosperity and Remembrance: The Virtues of Economic Stability*

Richard T. Curtin
Director, Surveys of Consumers
Survey Research Center
The University of Michigan

Consumer Sentiment

Following the stock market crash in late 1987, widespread uncertainty was expressed about the outlook for the economy during 1988. As we now know, the fear and panic expressed on Wall Street did not spread to Main Street. The Surveys of Consumers indicate that consumer confidence quickly regained its pre-crash level, and has since then remained at very positive levels (see the chart below). In the fourth quarter 1988 survey, the Index of Consumer Sentiment was 93.0, down from the post-crash high of 96.0 recorded in the third quarter.

The events of this past year do not mark the first time in this long expansion that the persistent strength in consumer confidence has confounded the pessimists. For the past six years, consumer sentiment has been more favorable than anytime since the mid-1960s.

To be sure, this long expansion has been marked by divergent trends in consumer attitudes and expectations. The Index components that reflect expected improvement have gradually weakened since reaching a cyclical peak at the start of 1984, while the components that reflect assessments of current economic conditions have generally strengthened (see the top chart on page 22). At present, it is not so much that further improvement is expected, but that consumers expect the gains won over the long expansion to be maintained during the year ahead.

*This article is adapted from Dr. Curtin's presentation to the 36th annual Conference on the Economic Outlook in November 1988.

It has been suggested that the very favorable levels of consumer sentiment recorded during the past few years have exceeded the strength of the underlying economic factors. To address this issue, this presentation includes data that compare the consumer's subjective and qualitative assessments of economic conditions with the more objective and quantitative measures from the National Income and Product Accounts and other sources. As we shall see, there indeed has been some unwarranted persistence of favorable assessments, but for the most part consumer attitudes and expectations have closely mirrored objective measures. Of course, for many pundits it will come as a surprise that consumer attitudes and expectations could demonstrate any coherent relationship with the prevailing macroeconomic conditions.

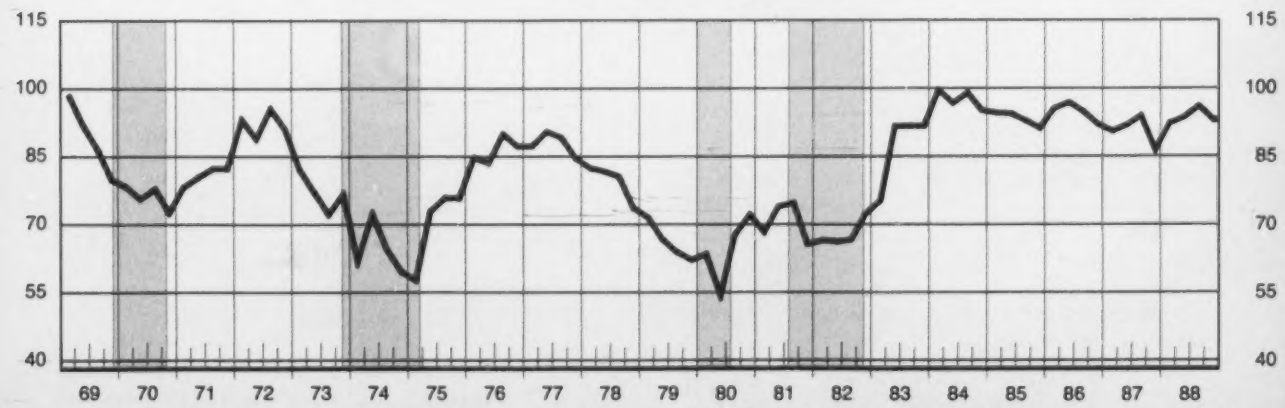
Personal Financial Evaluations

Of all the components of consumer sentiment, none has posted a more consistent favorable pattern during the current expansion than personal financial evaluations. In support of these very favorable assessments, consumers more frequently reported increases in family incomes during the current expansion than anytime in the past decade.

Importantly, inflation has thus far not posed a problem for consumers, as only 13 percent singled out recent price increases as the cause of a worsened financial situation. These favorable evaluations have been due more to low and stable inflation rates than to gains in nominal incomes. Only in the early 1960s did fewer families com-

INDEX OF CONSUMER SENTIMENT

February 1966 = 100



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

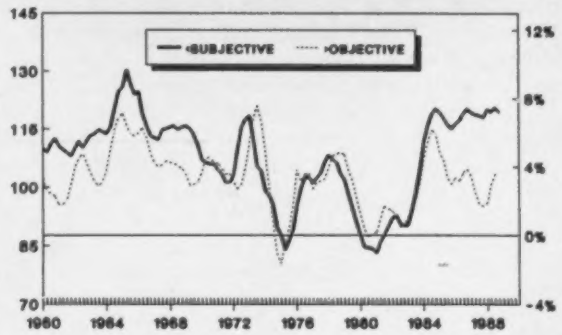
plain about rising prices as the cause of a worsening financial situation.

How do these subjective assessments made by consumers of their personal financial situation compare with the actual changes in their incomes? Chart 1 shows the trends in real personal disposable income and consumer assessments. For the series on real personal disposable income, the four quarter moving average of the annual percentage change is used; the attitude series is also shown as a four quarter moving average. The correspondence between the subjective and objective measures has been quite close in the past, but during the current expansion they have shown an uncharacteristic divergence. The simple time series correlation between the two series from 1960 to present was 0.70. For the more recent period from 1972 through 1984, the correlation was 0.88; when this time period is extended to include up to the third quarter of 1988 the correlation falls to 0.66. While measured real income change has slowed considerably as the expansion has lengthened, subjective assessments have remained at high levels.

Not surprisingly, in the fourth quarter 1988 survey much of the weakness recorded was concentrated in these personal financial evaluations. The proportion of families that reported an improved financial situation fell from 48 percent in the third quarter to 41 percent in the fourth quarter.

While it can be expected, based on these past trends, that the recent divergence will narrow even further, the closing of this gap may depend more on trends in inflation than nominal incomes. At the current time, however, consumers continue to hold favorable prospects for their own financial situation during the year ahead. In the fourth quarter 1988 survey, half of all consumers expected their financial situation to remain unchanged, considering expected changes in both incomes and prices, during the year ahead. Among the other half of consumers, more families expected their financial situation to improve rather than worsen, by a three-to-one margin (37 versus 11 percent). Overall, this is a quite favorable outlook.

CHART 1
PERSONAL FINANCIAL ASSESSMENTS AND CHANGE IN REAL DISPOSABLE INCOME



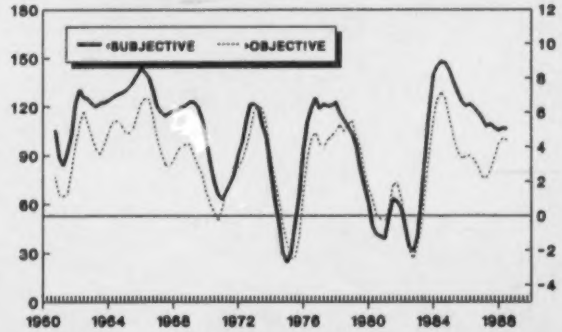
In each survey, consumers are also asked to give an overall assessment of change in business conditions in the economy as a whole. In the fourth quarter 1988 survey, half of all consumers reported that they thought that the economy had improved during the past year, a significant increase over the reading earlier in the year, but still well below the reading at the start of the current expansion.

When these subjective assessments of the national economy are compared with actual changes in the Gross National Product, a remarkably close correspondence emerges. Chart 2 shows the four quarter moving average of the annual percentage changes in real GNP and the four quarter moving average of the consumers' assessments of change in the economy. The time series correlation of the two series from 1960 to present was 0.90. These data indicate that the subjective assessments are in line with the historical pattern, although they do show a small divergence during the current expansion. For the period from 1972 through 1984, the time series correlation was 0.92, which falls only modestly to 0.89 when the time period is extended through the third quarter of 1988.

Opinions about the Economy

Despite these favorable views of their own economic situation, there has been no lack of negative information reaching consumers on the general economy. When respondents were asked whether they had heard of any recent changes in business conditions, the content of the news they heard and could recall has grown increasingly negative since the recovery began. Although favorable content of the news heard by consumers has fully recovered from the sharp drop caused by last year's stock market crash, there has still been an overall downward pattern over the course of the expansion. While the economic news reaching consumers has grown more negative, consumers' assessments of economic conditions for the country as a whole have not suffered as much, indicating the unevenness of the current expansion across different regions and industries.

CHART 2
ASSESSMENTS OF BUSINESS CONDITIONS AND PERCENTAGE CHANGE IN REAL GNP



Consumers' evaluations of prospects for the national economy have posted a strong recovery from the low levels recorded following the stock market crash. In the fourth quarter 1988 survey, half of all consumers (53 percent) expected good times financially in the country as a whole during the year ahead. Although this recovered the entire loss due to the stock market crash, it nonetheless returns these expectations to the slowly declining path that has been underway since the start of the expansion.

Longer-term prospects for the national economy have also improved, with as many families expecting good as bad times financially over the next five years. Indeed, during the last half of 1988, the surveys recorded the most optimistic readings in more than two years. Nonetheless, more than any other facet of consumer sentiment, long-term economic prospects have been the most troublesome to consumers. In the current expansion, the proportion of families that expected the reoccurrence of a recession over a five year horizon has never fallen below 33 percent. In comparison, during the 1960s as few as 11 percent of all families expected a recession over the longer term. The optimism of the 1980s has always been tempered by the realization that significant economic challenges remain on the horizon.

Unemployment Expectations

The major concern about the long-term vitality of the economy has been employment prospects. The recent gains in the international competitiveness of U.S. products, due to the decline in the value of the dollar, have improved prospects for employment. In the fourth quarter 1988 survey, the majority of families (57 percent) expected the unemployment rate to remain unchanged at its current ten year low during the year ahead. As the expansion has lengthened and the unemployment rate has fallen, fewer and fewer consumers have expected further declines. Importantly, few consumers expect renewed increases from the current low level. For the consumer, these favorable prospects represent the primary source of the current strength in the national economy.

The expected change in the national unemployment rate is compared with actual changes in Chart 3. Since consumers are asked about the direction of expected change in the unemployment rate, not its level, the annual percentage point change in the national unemployment rate was used as the objective measure. Both consumers' expectations and the percentage point change in the unemployment rate are shown as four quarter moving averages. As can be seen from the chart, the unemployment expectations series foreshadows actual changes in the unemployment rate to a high degree. Consumer expectations changed three quarters in advance of the actual change in the unemployment rate, demonstrating a time series correlation of 0.78 with this lead. Moreover, there has been little change in this relationship during the current expansion.

Interest Rate Expectations

Interest rates were expected to increase by 66 percent of all families in the fourth quarter 1988 survey. This represents a sharp rise from the post-crash low of 49 percent and returns interest rate expectations to the very unfavorable levels recorded in the second and third quarters of 1987. Indeed, they are now as unfavorable as at any prior time.

To assess the accuracy of the interest rate expectations series, the annual percentage point change in the prime rate was used so as to be consistent with the survey question, which focuses only on the direction of the expected change. Both series are shown as four quarter moving averages in Chart 4. Consumer expectations changed, on average, two quarters in advance of the change in the prime rate, achieving a time series correlation of 0.78 with that two quarter lead.

Inflation Expectations

In the fourth quarter 1988 survey, the average annual rate of inflation expected by consumers during the year ahead was 5.2%, up from 4.1% one year earlier. Consumer price

CHART 3
UNEMPLOYMENT EXPECTATIONS & PERCENTAGE POINT CHANGE IN THE UNEMPLOYMENT RATE

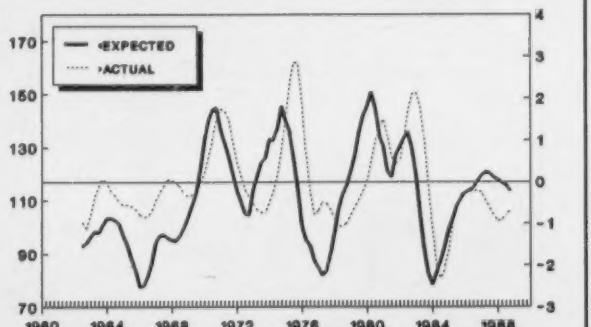
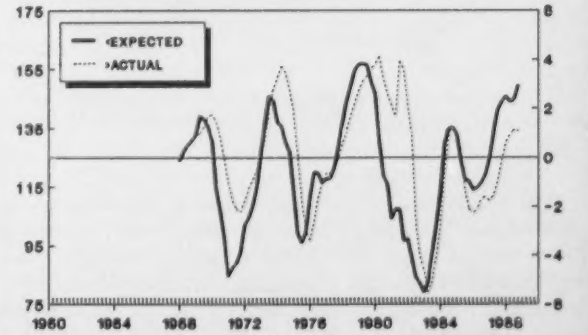


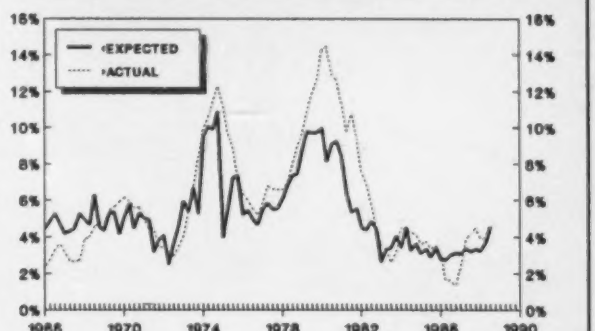
CHART 4
INTERNATIONAL RATE EXPECTATIONS & PERCENTAGE POINT CHANGES IN THE PRIME RATE



expectations rose sharply during the second quarter of 1988, as the extensive media coverage given to the drought heightened fears of potential increases in food prices, and remained largely unchanged at that higher level in the third quarter. In the fourth quarter survey, the expected inflation rate fell by 3/10 of a percentage point from the third quarter reading. Overall, the 1988 surveys recorded the highest rate of inflation expected by consumers in more than four years (see the bottom chart on page 22).

The change consumers expect in the annual inflation rate and the actual annual rate of change in the CPI-u is shown in Chart 5. For the expectations series, the median expected price increase was used — which yields lower estimates of expected inflation than the mean of the same series. As can be seen from this chart, the peak inflation rates in past years have been underestimated, but during the current expansion the relationship has been quite close. Changes in price expectations, on average, preceded changes in the CPI by one quarter. From 1966 to present, a time series correlation of 0.90 was achieved when the expectations series was led one quarter.

CHART 5
MEDIAN PRICE EXPECTATIONS AND CHANGE IN CONSUMER PRICE INDEX



Buying Attitudes

Attitudes toward buying conditions for homes, vehicles, appliances, furniture, and home electronics have remained at favorable levels in the fourth quarter 1988 survey.

Household Durables. Favorable attitudes toward buying conditions for appliances, furniture, and home electronics were held by 72 percent of all families in the fourth quarter. This reading was slightly above the 68 percent recorded a year earlier, and just below the all-time peak of 78 percent recorded at the start of 1986.

The importance of very favorable perceptions of market prices for these goods must be emphasized. The availability of low and discounted prices has dominated consumer views in recent years as never before. Consumers have come to expect, indeed demand, price discounting. Moreover, even the rising concern with inflation has not resulted in a change in this attitude. Few consumers now cite the once common appeal of buying-in-advance of rising prices. For consumers, the inflation issue is largely confined to food, and therefore offers little incentive to change their attitudes toward other purchases.

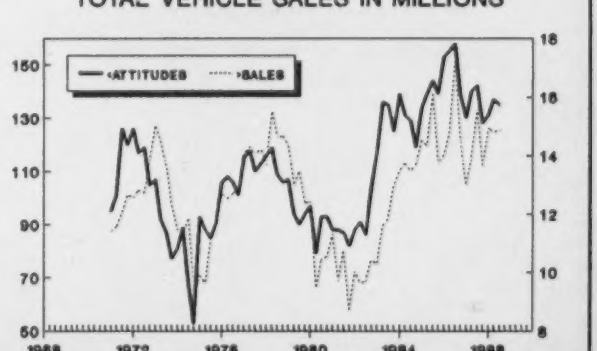
Vehicles. Favorable vehicle-buying attitudes were held by 61 percent of all families in the fourth quarter of 1988. Although this is nearly identical to the year-earlier figure, it is significantly below the all-time peak of 76 percent recorded two years earlier (see the second chart on page 22). Favorable perceptions of market prices for vehicles have played an important role in the current expansion. In sharp contrast to the so-called "sticker shock" of the 1970s, the expansion of the 1980s has been accompanied by more frequent reference by consumers to the availability of price discounts and rebates making current prices attractive, and by less frequent reference to high prices. And the once potent rationale of buying-in-advance of rising vehicle prices has only resurfaced to a very limited extent — mainly surrounding imported vehicles and model year changeovers.

Much more important in the current recovery has been attitudes toward interest rates on vehicle purchases. Very favorable perceptions of manufacturer-sponsored interest rate reductions on new vehicle loans were responsible for the earlier peaks in favorable buying attitudes. During the past year, however, these favorable perceptions of interest rates on vehicle loans have declined sharply.

Chart 6 shows the correspondence of vehicle-buying attitudes with sales of new cars and light trucks in millions of units at annual rates. On average, changes in buying attitudes preceded changes in sales by two quarters. A time series correlation of 0.75 was achieved when the attitude series was led two quarters, although it was nearly as high with a lead of up to four quarters.

Homes. Favorable attitudes toward buying conditions for homes were held by 65 percent of all families in the fourth quarter 1988 survey, somewhat below the third quarter reading and substantially below the cyclical peak recorded in 1986 (see the third chart on page 22). Despite the overall decline in favorable home-buying attitudes, they still remain above the peak levels recorded prior to 1980.

CHART 6
BUYING CONDITIONS FOR CARS AND TOTAL VEHICLE SALES IN MILLIONS



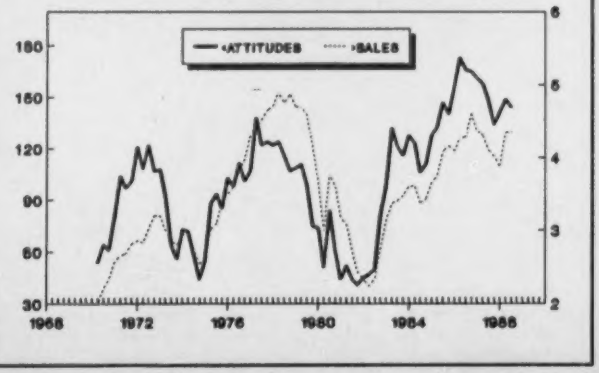
Much of the strength in attitudes toward buying conditions for homes during this expansion has been due to favorable perceptions of prices. For the first time since the 1960s, more families when asked to explain their views favorably referred to current home prices during the current expansion than complained about high home prices. In the third quarter 1988 survey, nearly twice as many families favorably mentioned current home prices as complained about high prices. The small fourth quarter decline in favorable home-buying attitudes can be traced to a decline in these favorable perceptions of home prices.

Although favorable perceptions of home prices weakened in the fourth quarter survey, there was no rise in the proportion of families that found appeal in buying-in-advance of rising home prices. Whereas in the 1970s this rationale was widespread, in the current expansion very few families expressed this motivation. Indeed, rather than buying-in-advance of rising prices, consumers were more likely to report the advantage of *borrowing*-in-advance of rising interest rates. For home buyers the 1980s has meant greater uncertainty about future mortgage rates than future home prices. And at present it is more likely that consumers hold favorable home-buying attitudes because they fear increases in mortgage rates rather than increases in home prices.

While it has long been true that declines in favorable home-buying attitudes have been dominated by rising mortgage rates, the sharp increases in favorable home-buying attitudes recorded during the current expansion was the first to be dominated by the appeal of declining interest rates. During the past year, however, the appeal of lower mortgage rates has greatly lessened, weakening overall home-buying attitudes.

Chart 7 shows the trends in home-buying attitudes and sales of new and existing single family homes in millions of units at annual rates. Changes in home-buying attitudes preceded changes in sales on average by two quarters. A time series correlation of 0.75 was found when the attitude series was led by two quarters.

CHART 7
HOME BUYING ATTITUDES AND SALES OF SINGLE FAMILY HOMES IN MILLIONS



Summary Outlook

The dominant finding from the recent Surveys of Consumers is twofold: First, consumer sentiment remains at very favorable levels, marking the most extended period of consumer confidence recorded in more than twenty years. Second, although remaining at favorable levels, at the margin consumer sentiment trends now exhibit more potential weakness than strength. While the declines have thus far been modest and have proceeded at a very slow pace, they signal greater downside risk than prospects for renewed upward momentum. The most favorable prospects for consumer spending are attained when attitudes and expectations are favorable and improving. Nonetheless, the data do indicate a positive outlook for consumer sales. There are, however, several concerns.

First, consumers have become increasingly concerned with rising inflation rates and with rising interest rates. Both of these concerns strike at the core of the remaining strength in consumer confidence and represent a serious threat to its continued maintenance at high levels.

Although at present consumers continue to favorably view income and employment prospects for the year ahead, rising inflation rates could quickly erode these positive attitudes, especially since these favorable assessments have outdistanced actual developments in incomes. Indeed, one of the interesting results from the comparisons between consumers' subjective assessments and actual economic changes is that the largest gap in the otherwise close correspondence was for assessments of personal finances. Most observers would suggest that since consumers possess more information about their own financial situation than about any other aspect of the economy these assessments would provide a more accurate reflection of actual conditions. Given the results on the inflation expectations comparisons, the answer does not lie in consumers' underestimation of inflation, but it is possible that consumers have overestimated the growth in their nominal incomes.

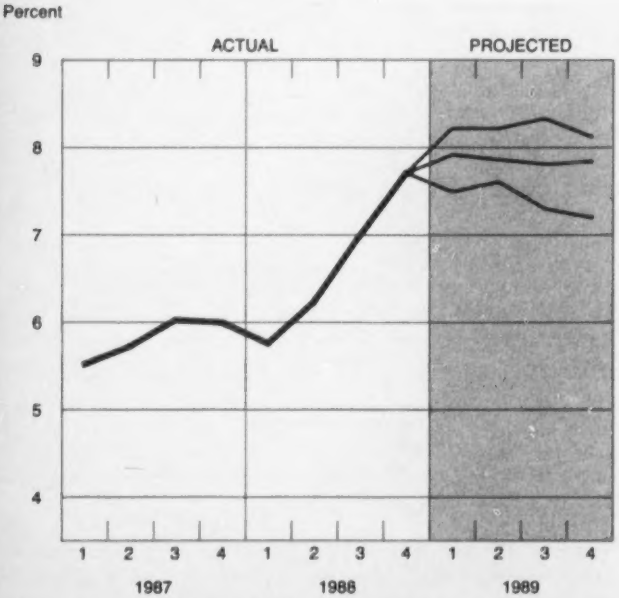
Perhaps a more plausible explanation is that it has been the relative stability of inflation that has enhanced consumers' assessments of their economic situation. The uncertainty caused by the inflation of the 1970s led to a pervasive sense of economic insecurity and an inability to plan ahead. The lower and more stable inflation rates that have prevailed since then have given consumers a new sense of confidence in their ability to make financial plans and to provide for future financial needs. It is this renewed sense of financial stability that has made the gap between subjective assessments and actual developments persist. And it is a resurgence in inflation that could cause this gap to close quickly.

During the past five years the quarterly movements in the Index of Consumer Sentiment as well as price expectations have exhibited the lowest standard deviations recorded in more than twenty years. In addition, the decline in the variance of the Index of Consumer Sentiment was preceded by the decline in the variance of price expectations.

The second potential threat involves interest rates. Decisions on the timing of major purchases have become increasingly dependent on interest rate trends, and increases in interest rates during the year ahead would diminish the remaining strength in these attitudes. As we have seen, the recent increases in interest rates have meant that consumers no longer view their current level as a positive appeal, but interest rates have not yet increased to the point at which consumers view them as a cause for postponement.

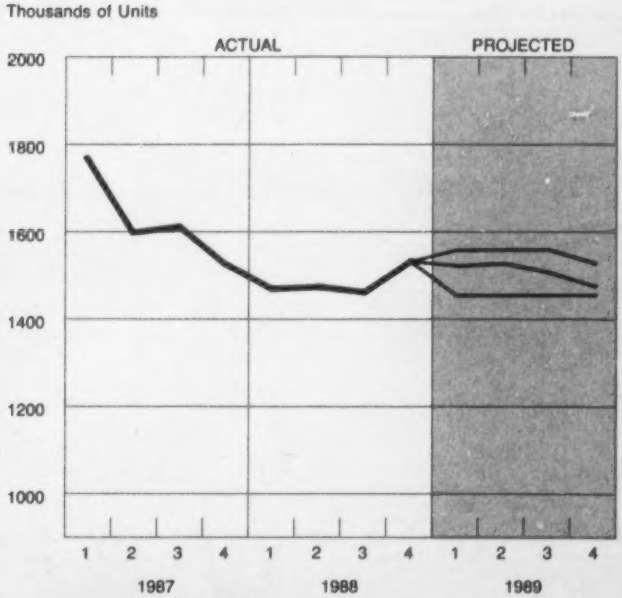
Overall, these data indicate that consumer purchases of homes, vehicles, and household durables will post modest declines from their current levels during the year ahead. Yet, despite these weakening prospects, this is a very positive outlook, extending the already record length of the current expansion. Following the troubled and turbulent 1970s, the 1980s will certainly be remembered for the persistence of this economic expansion. To be sure, it has not been the best of times, but it is far from the worst. And it is the memory of these past problems that makes current economic conditions appear so favorable.

3-MONTH TREASURY BILL RATE



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

NEW PRIVATE HOUSING UNITS STARTED



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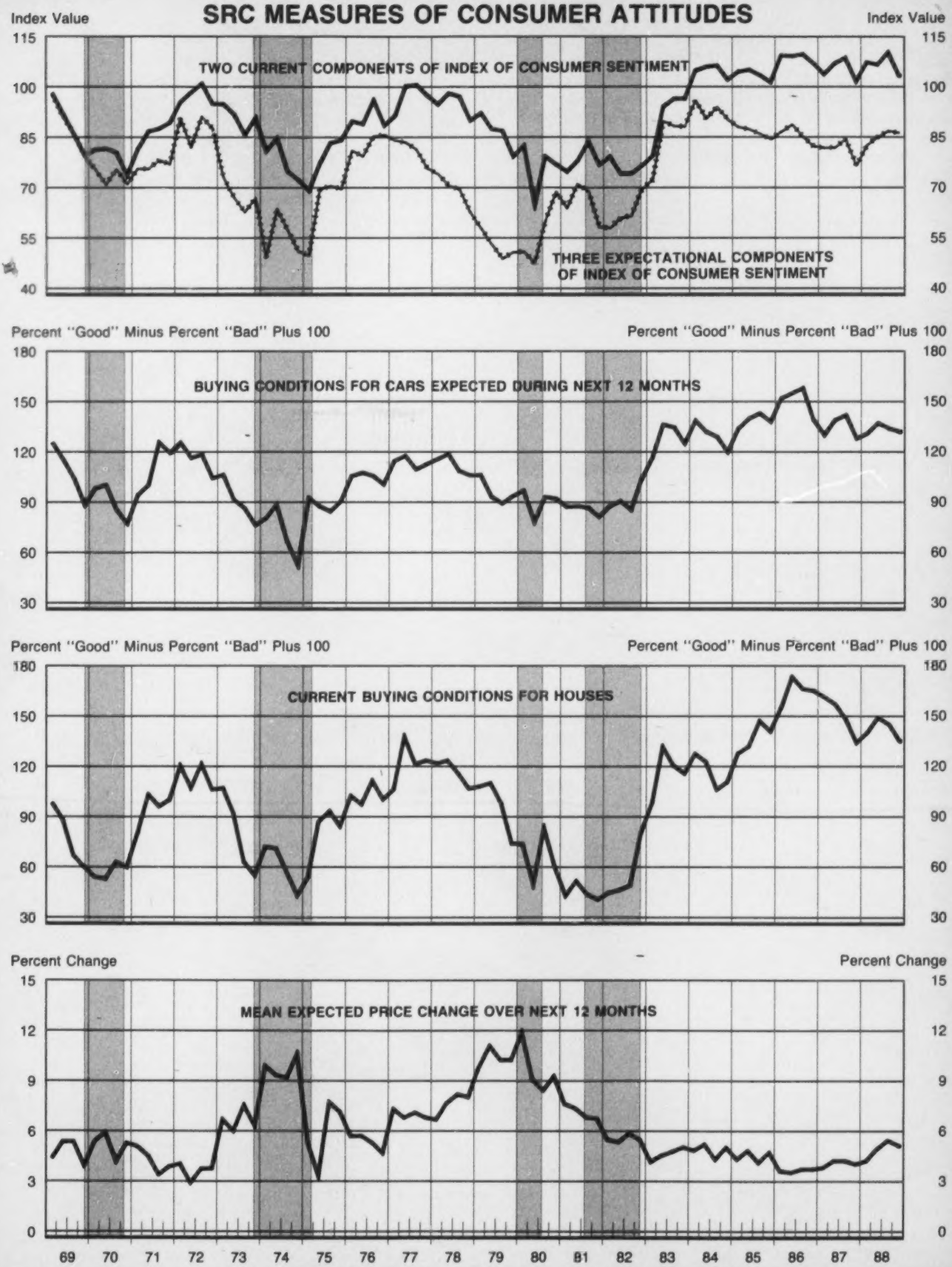
SRC MEASURES OF CONSUMER ATTITUDES



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

Actual and Projected Economic Indicators

seasonally adjusted

SERIES FORECAST BY THE ASA-NBER PANEL													
ECONOMIC INDICATOR	Quarterly Data										Annual Data		
	Actual					Projected					Actual		Proj.
	1987:4	1988:1	1988:2	1988:3	1988:4	1988:4	1989:1	1989:2	1989:3	1989:4	1987	1988	1989
GROSS NATIONAL PRODUCT	4,662.8	4,724.5	4,823.8	4,909.0	4,989.9	4,982.0	5,075.0	5,165.0	5,256.0	5,323.8	4,526.7	4,861.8	5,207.0
GNP IMPLICIT PRICE DEFLATOR (index, 1982 = 100)	118.9	119.4	121.0	122.4	123.8	123.6	125.0	126.4	127.9	129.0	117.7	121.7	126.9
CORPORATE PROFITS AFTER TAXES	145.7	149.4	162.7	169.1	NA	169.8	171.5	173.5	172.5	171.5	142.9	NA	175.5
UNEMPLOYMENT RATE (percent)	5.90	5.70	5.50	5.47	5.33	5.40	5.40	5.50	5.50	5.50	6.19	5.50	5.50
INDUSTRIAL PRODUCTION (index, 1977 = 100)	133.2	134.5	136.0	138.4	139.8	140.0	141.0	142.0	143.0	143.0	129.8	137.2	142.0
NEW PRIVATE HOUSING UNITS STARTED (millions)	1.533	1.477	1.481	1.468	1.538	1.475	1.465	1.470	1.450	1.420	1.634	1.491	1.460
CONSUMER PRICE INDEX (annualized percent change from prior quarter or year)	3.59	3.40	4.79	4.73	4.33	5.00	4.85	4.85	4.90	5.00	3.70	4.08	5.00
3-MONTH TREASURY BILL RATE (%)	6.00	5.76	6.23	6.99	7.70	7.50	7.70	7.65	7.60	7.63	5.83	6.67	7.55
NEW HIGH-GRADE CORPORATE BOND YIELD (percent)	10.37	9.64	10.08	10.14	NA	10.20	10.40	10.50	10.50	10.30	9.69	NA	10.60
GNP IN 1982 DOLLARS	3,923.0	3,956.1	3,985.2	4,009.4	4,029.2	4,033.0	4,069.0	4,098.6	4,123.4	4,134.5	3,847.0	3,995.0	4,110.1
PERSONAL CONSUMPTION EXPENDITURES (1982 dollars)	2,531.7	2,559.8	2,579.0	2,603.8	2,621.9	2,616.0	2,631.0	2,646.0	2,661.0	2,673.0	2,520.9	2,591.1	2,652.0
NONRESIDENTIAL FIXED INVESTMENT (1982 dollars)	464.8	473.4	490.2	495.0	490.4	502.0	509.0	515.0	520.0	524.0	445.2	487.3	518.0
RESIDENTIAL FIXED INVESTMENT (1982 dollars)	192.7	189.5	189.6	191.6	197.4	190.0	190.0	188.8	188.0	189.0	195.2	192.0	189.0
CHANGE IN BUSINESS INVENTORIES (1982 dollars)	67.1	66.0	35.3	39.5	29.2	29.0	34.0	33.3	32.0	30.0	34.4	42.5	32.2
NET EXPORTS (1982 dollars)	-126.0	-109.0	-92.6	-93.9	-100.7	-91.2	-87.7	-83.5	-83.0	-76.4	-128.9	-99.0	-82.4
FEDERAL GOVERNMENT PURCHASES (1982 dollars)	347.7	327.8	331.6	320.1	332.9	331.5	330.0	330.0	330.0	335.0	339.0	328.1	332.0
STATE AND LOCAL GOVERNMENT PURCHASES (1982 dollars)	444.9	448.7	452.2	453.4	458.0	457.7	460.0	463.0	465.0	468.0	441.2	453.1	464.0

SERIES FROM THE CURRENT-DOLLAR GNP ACCOUNTS													
ECONOMIC INDICATOR	Quarterly Data										Annual Data		
	1986:3	1986:4	1987:1	1987:2	1987:3	1987:4	1988:1	1988:2	1988:3	1988:4	1986	1987	1988
GROSS NATIONAL PRODUCT	4,268.4	4,304.6	4,391.8	4,484.2	4,568.0	4,662.8	4,724.5	4,823.8	4,909.0	4,989.9	4,240.3	4,526.7	4,861.8
PERSONAL CONSUMPTION EXPENDITURES	2,842.8	2,876.0	2,921.7	2,992.2	3,058.2	3,076.3	3,128.1	3,194.6	3,261.2	3,320.1	2,807.5	3,012.1	3,226.0
GROSS PRIVATE DOMESTIC INVESTMENT	653.0	656.4	685.5	698.5	702.8	764.9	763.4	758.1	772.5	767.9	666.0	712.9	765.5
NET EXPORTS	-109.1	-114.3	-119.1	-122.2	-125.2	-125.7	-112.1	-90.4	-80.0	-90.3	-104.4	-123.0	-93.2
GOVERNMENT PURCHASES	881.8	886.5	903.8	915.7	932.2	947.3	945.2	961.6	955.3	992.2	871.2	924.8	963.6
DISPOSABLE PERSONAL INCOME	3,032.4	3,064.7	3,143.9	3,154.1	3,224.9	3,315.8	3,375.6	3,421.5	3,507.5	3,587.1	3,019.6	3,209.7	3,472.9
PERSONAL SAVING RATE (percent of disposable income)	3.3	3.2	4.2	2.2	2.3	4.3	4.4	3.7	4.2	4.6	4.0	3.3	4.2

Note: (1) All data are at annual rates and in billions of current dollars unless otherwise indicated. (2) To facilitate comparison and evaluation of forecasts, both actual data, released in January, and projected data, released by ASA-NBER in December, are displayed for fourth quarter 1988.

Sources: Projections: American Statistical Association – National Bureau of Economic Research panel of forecasters.
Actual Data: U.S. Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

*Substantial revision of the data for series marked with an asterisk has occurred since the last printing.

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ECONOMIC PROSPECTS: Actual and projected seasonally adjusted quarterly data at annual rates.

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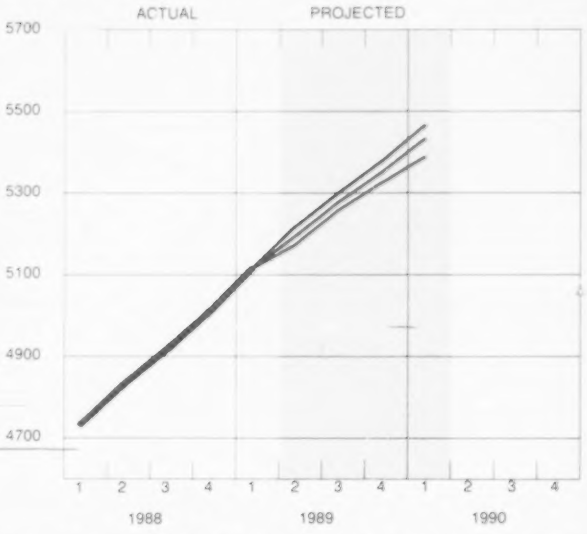
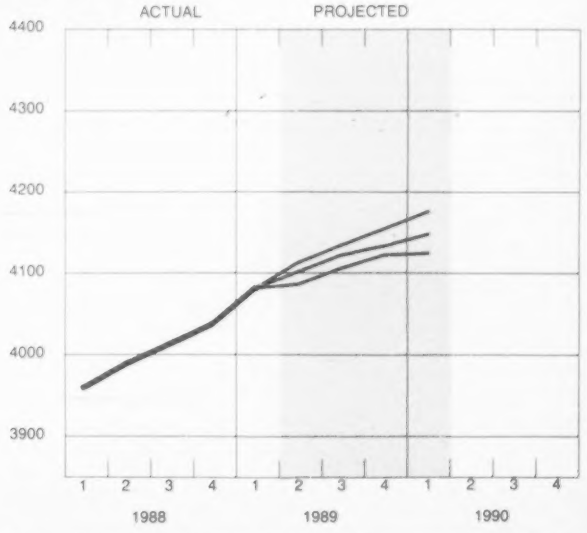
Billions of Dollars



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

GROSS NATIONAL PRODUCT

IN CONSTANT 1982 DOLLARS
Billions of Dollars



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

The U.S. Economic Outlook for 1989-90: May 1989 Forecast Update

Joan P. Crary, Saul H. Hymans, and Janet C. Wolfe
Research Seminar in Quantitative Economics
The University of Michigan

Introduction

Preliminary data for the first quarter of 1989 indicate that real GNP grew at a 5.5 percent annual rate following the 2.4 percent increase posted for the fourth quarter of 1988. The effect of last year's drought reduced fourth quarter growth by an estimated 1.1 percentage points, while the return to normal growing conditions in 1989, which is assumed in the estimate of first quarter growth, added 2½ percentage points to the preliminary estimate of first quarter growth. Thus, excluding the effects of the drought, real GNP grew at a 3 percent annual rate in the first quarter of 1989 following a 3.5 percent annual rate increase in the fourth quarter of 1988.

Real final sales, excluding the federal government Commodity Credit Corporation (CCC) inventory change, increased by $26.6 billion (2.7 percent at annual rate) in the first quarter of 1989. Consumer purchases contributed only $8.6 billion (1.3 percent at annual rate) to this increase, reflecting a decline, in response to higher interest rates, in purchases of automobiles and an increase of less than one percent at annual rate in real expenditure on other durable goods, coupled with modest growth in consumer spending on nondurables and services. Real business fixed investment increased by $11.4 billion (9.6 percent at annual rate), led by purchases of production equipment, up $5.3 billion (29.1 percent at annual rate), and of other equipment excluding autos, up $7.8 billion (13.4 percent at annual rate). Purchases of automobiles by businesses declined by $4 billion (1982 dollars). Real net exports increased by $9.7 billion, reflecting a $13.3 billion increase in real exports, an increase of $8 billion in real non-oil imports, and a decline of $4.4 billion in real oil imports.

Indications of weaker growth during the current quarter include the April increase in the civilian unemployment rate to 5.3 percent from its March low of 5 percent, reflecting no growth in total civilian employment during April. Car sales increased substantially in April, to nearly 10.8 million units at annual rate from just over 9½ million in March, but were being supported by financing incentives. Reductions in production schedules have been announced in recognition that, even with the boost from the current round of sales incentives, current levels of car sales will not support the previously planned production levels. Housing starts weakened throughout the first quarter, falling to only 1.4 million units at annual rate in March.

Inputs to the Forecast

Congress and the administration have agreed on the broad outlines of a federal budget that is intended to reduce the fiscal 1990 deficit by $28 billion relative to a baseline budget that allows for inflation and increases in program participation. The deficit reduction agreement includes a $4.2 billion cut in defense spending relative to the baseline and a $2.7 billion reduction in medicare expenditures. On the revenue side, the agreement calls for a $2.7 billion increase in user fees and $5.3 billion in as yet unspecified new revenue measures. Also included in the $28 billion reduction are one-time asset sales totaling $5.7 billion, another $1.8 billion to be "saved" by taking the U.S. postal service off budget, and an acceleration of $1 billion in farm price support payments so that the checks would be written in fiscal 1989 instead of fiscal '90.

Our federal budget assumptions for FY 1990 are summarized in Table 1. We have included the agreed-upon cuts in spending and increases in user fees and have assumed a $7.7 billion increase in personal income taxes beginning January 1, 1990, in order to achieve the $5.3 billion unspecified increase in revenues for fiscal 1990. We have also incorporated in the budget the direct costs and interest obligations resulting from the thrift industry bailout.

Total federal expenditures are projected to increase by 6.7 percent for fiscal 1989 and by 4.6 percent for fiscal 1990, following an increase of 4.6 percent for fiscal 1988. The increase in fiscal 1988 was held down by a relatively large reduction in CCC farm inventory stocks. Defense spending is projected to increase by 1.2 percent in both fiscal '89 and '90, following a 2.6 percent increase in fiscal '88. Nondefense spending, excluding the CCC inventory change, is projected to increase by 6.1 percent in fiscal '89 and 5.5 percent in fiscal '90, following a 10.8 percent increase in fiscal '88. Total federal receipts are forecast to increase by 6.6 percent in fiscal '89 and by 7.3 percent in fiscal '90. The bottom line is a federal deficit (NIPA basis) that increases to $153 billion in fiscal 1989 from $143 billion in fiscal '88 but declines to $133 billion in fiscal 1990. While the projected fiscal '90 deficit represents a movement in the right direction, it does not achieve the deficit reduction target of $100 billion set by the Deficit Reduction Act of 1987.

Short- and long-term interest rates continued to climb during the first quarter, leveling off during late March and retreating modestly during April. It appears that the Fed is no longer pushing interest rates up but is maintaining its tight monetary policy stance aimed at preventing excess demand inflation. We expect this policy to continue for the remainder of 1989. In the context of our forecast, short-term interest rates will decline by 60 to 70 basis points between the second and fourth quarters of 1989 in response to slower growth in the economy. With the consequent reduction in inflationary pressure and the fiscal tightening assumed in the 1990 federal budget, we project that the Fed will move to a somewhat less restrictive policy at the beginning of 1990, represented by a reduction in the discount rate to 6½ percent. Acceleration of growth in the economy during 1990 is then assumed to result in renewed tightening by the Fed during the final quarter of 1990.

TABLE 1
Federal Government Expenditures in the National Income and Product Accounts
(Billions of Dollars)

Expenditures, Receipts, and Deficit	Actual	RSQE Projections	
	Fiscal 1988[1]	Fiscal 1989[2]	Fiscal 1990[2]
Federal Government Expenditures	1106.5	1180.4	1235.2
(% Change)	(4.6)	(6.7)	(4.6)
Purchases of Goods and Services	379.8	401.6	416.8
National Defense	297.7	301.2	304.6
(% Change)	(2.6)	(1.2)	(1.2)
Nondefense	82.1	100.4	112.2
Commodity Credit Corporation Inventory Change	−14.6	−2.1	4.0
Other Nondefense	96.6	102.5	108.2
(% Change)	(10.8)	(6.1)	(5.5)
Transfer Payments	433.8	460.6	489.0
Unemployment Benefits	13.5	14.3	18.8
Grants-in-Aid to State and Local Governments	108.6	115.2	117.8
Net Interest Paid	151.6	169.3	184.8
Subsidies Less Current Surplus of Government Enterprises	32.7	33.6	26.8
Federal Receipts	963.5	1027.1	1102.1
(% Change)	(7.7)	(6.6)	(7.3)
Surplus (+) or Deficit (−)	−143.1	−153.4	−133.1

1. Data for fiscal 1988 are from the *Survey of Current Business*, December 1988.

2. RSQE projections and Control Forecast for fiscal years 1989 and 1990.

Oil prices are projected to average $19 to $20 per barrel during the current quarter in response to curtailed production in the North Sea, caution in Alaska, and OPEC production restraint. Thereafter, oil prices are projected to fall back to the $18 per barrel range during the second half of 1989 and then to increase at a 2.5 percent annual rate during the first half of 1990 and at a 4 percent annual rate during the second half of next year.

We have assumed nearly normal harvests for U.S. agriculture in 1989 and 1990, and we project that farm prices will be rising at an annual rate of about 4 percent from mid-1989 through the end of 1990.

Summary of the Forecast for 1989-90

The input assumptions and initial conditions discussed above yield a forecast of continued but slowing economic growth through the end of 1989. The slowdown in the economy resulting from recent Fed tightening is now materializing, with real GNP forecast to increase by 1.4 percent at annual rate during the current quarter and by only one percent during the third quarter of 1989.

Real business capital spending is forecast to lead again in the current quarter, increasing at a 9½ percent annual rate as investment in production, agricultural, and other non-auto equipment remains strong and business purchases of autos rebound. By the third quarter of 1989, however, business capital spending exhibits only moderate growth, increasing by 3 percent at annual rate. Real spending by consumers is forecast to increase by only 1.4 percent at annual rate this quarter in spite of an incentive-induced increase in auto purchases, and by only one percent during the third quarter of 1989.

Even slower growth is forecast for the fourth quarter of 1989 and the first quarter of 1990, 6/10 and 9/10 of one percent at annual rate, respectively, when a tighter fiscal policy goes into effect. Short-term interest rates are forecast to decline by 60 to 70 basis points between the second and fourth quarters of this year in response to the slower growth in the economy. Our assumption of a less restrictive monetary policy in early 1990 results in a further reduction in short-term interest rates, with the 3-month treasury bill rate forecast to average 7 percent in 1990. Long-term interest rates, including mortgage rates, are forecast to remain at current levels for the remainder of 1989 and then to decline in 1990, averaging 20 to 50 basis points below current levels for calendar 1990. Real output growth is forecast to accelerate to 3¼ percent at annual rate in the second half of 1990 in response to the lower interest rates, as growth in interest-sensitive sectors rebounds. Thus, real GNP is forecast to increase by 2.1 percent from the fourth quarter of 1988 to the fourth quarter of 1989 and by 2.4 percent during 1990.

Corresponding to the growth path in our forecast is a civilian unemployment rate which increases throughout the forecast horizon, averaging 5¼ percent in the closing quarter of 1989 and 6.1 percent in calendar 1990.

Auto sales, which totaled 10.6 million units in calendar 1988, are forecast to decline to a total of 9.8 million units for 1989. Auto sales are forecast to decline in the second half of 1989 but to turn around in early 1990 as interest rates fall in response to the assumed easing of monetary policy. Housing starts are forecast to decline throughout 1989 and then to rebound as mortgage rates come down during 1990, but total only 1.4 million units each year.

The exchange value of the dollar is forecast to stabilize during the current quarter after increasing at a 13½ percent annual rate last quarter in response to higher U.S. interest rates relative to foreign rates. The exchange value of the dollar is forecast to decline by 3 percent at annual rate during the second half of 1989 and by 4.9 percent during 1990. Improvement in the real trade deficit will be small through mid-1989 due to the relatively high interest rates and the stronger dollar which they have induced. Real import growth slows in late 1989 and remains weak, showing virtually no growth during 1990, while real export growth continues in the 8 to 8½ percent range. The bottom line is a real trade deficit that declines from $100 billion for calendar 1988 to $93 billion for 1989 and $62 billion for 1990.

Core industrial price inflation, as measured by the growth rate of the implicit price deflator for the nonfarm business sector, is forecast to increase through the third quarter of 1989 as higher oil prices filter through the system. It then declines in response to the slower growth of the economy and more stable oil prices, remaining in the 5¼ to 5½ percent range from late 1989 through 1990.

TABLE 2. Selected Economic Indicators as Forecast by RSQE, May 1989

Seasonally adjusted data, billions of current dollars unless otherwise indicated

	QUARTERLY DATA								ANNUAL DATA			
	Actual	Projected							Projected			
											% Changes	
ECONOMIC INDICATORS	1989:1	1989:2	1989:3	1989:4	1990:1	1990:2	1990:3	1990:4	1989	1990	88-89	89-90
GROSS NATIONAL PRODUCT	5,116.8	5,212.6	5,302.0	5,376.6	5,464.7	5,567.2	5,681.7	5,805.6	5,252.0	5,629.8	8.0	7.2
PERSONAL CONSUMPTION EXPENDITURES	3,380.4	3,457.8	3,519.3	3,580.7	3,647.9	3,720.5	3,796.9	3,874.9	3,484.5	3,760.0	8.0	7.9
DURABLE GOODS	461.5	469.0	469.8	472.6	475.4	483.7	493.5	502.7	468.2	488.8	3.8	4.4
AUTOMOBILES and PARTS	208.2	213.1	210.5	209.9	209.3	213.7	219.1	224.1	210.4	216.5	0.9	2.9
FURNITURE and H.H. EQUIPMENT	167.8	169.4	171.6	173.6	175.5	178.0	180.7	183.2	170.6	179.3	7.3	5.1
OTHER DURABLES	85.5	86.5	87.7	89.0	90.5	92.1	93.7	95.5	87.2	93.0	4.4	6.6
NONDURABLE GOODS	1,093.7	1,124.3	1,141.0	1,154.1	1,172.0	1,190.6	1,210.4	1,230.9	1,128.3	1,201.0	7.8	6.4
SERVICES	1,825.3	1,864.5	1,908.5	1,954.1	2,000.4	2,046.2	2,093.1	2,141.2	1,888.1	2,070.2	9.2	9.6
GROSS PRIVATE DOMESTIC INVESTMENT	816.0	814.8	824.3	827.9	830.0	839.9	859.0	882.1	820.7	852.7	7.1	3.9
NONRESIDENTIAL	516.5	532.9	544.6	554.4	562.4	570.4	580.4	592.3	537.1	576.4	10.0	7.3
RESIDENTIAL STRUCTURES	237.7	237.3	233.7	230.7	233.5	242.3	253.7	263.5	234.8	248.2	2.2	5.7
CHANGE in BUSINESS INVENTORIES	61.8	44.6	46.0	42.8	34.1	27.2	24.9	26.3	48.8	28.1	—	—
NET EXPORTS	−90.5	−92.5	−92.8	−93.1	−91.5	−85.9	−78.4	−69.0	−92.2	−81.2	—	—
EXPORTS	570.3	590.6	607.9	627.3	647.6	670.1	693.8	718.4	599.0	682.5	15.2	13.9
IMPORTS	660.8	683.1	700.7	720.3	739.2	755.9	772.2	787.4	691.2	763.7	12.5	10.5
GOVERNMENT PURCHASES	1,010.9	1,032.5	1,051.2	1,061.0	1,078.3	1,092.7	1,104.2	1,117.7	1,038.9	1,098.2	7.7	5.7
FEDERAL	394.8	403.7	411.7	410.6	416.8	419.9	419.9	421.8	405.2	419.6	6.4	3.6
NATIONAL DEFENSE	298.7	301.0	303.0	301.9	305.5	305.5	305.5	307.6	301.1	306.0	0.9	1.6
NONDEFENSE	96.1	102.7	108.7	108.7	111.3	114.4	114.4	114.2	104.0	113.6	*26.0	*9.2
STATE and LOCAL	616.1	628.8	639.5	650.4	661.5	672.8	684.3	696.0	633.7	678.6	8.5	7.1
GROSS NATIONAL PRODUCT DEFLATOR, 1982 = 100	125.2	127.1	128.9	130.6	132.4	134.1	135.9	137.6	127.9	135.0	5.1	5.5
REAL GROSS NATIONAL PRODUCT (billions of 1982 dollars)	4,088.2	4,102.2	4,112.0	4,117.7	4,127.3	4,150.8	4,181.8	4,217.9	4,105.0	4,169.4	2.7	1.6
CIVILIAN UNEMPLOYMENT RATE (percent)	5.2	5.4	5.5	5.8	6.0	6.0	6.1	6.2	5.5	6.1	—	—
CORPORATE PROFITS plus IVA and CCA	331.4	341.1	354.4	336.0	336.9	346.2	357.8	371.7	340.7	353.1	3.8	3.6
3-MONTH TREASURY BILL RATE (%)	8.5	8.5	8.1	7.9	7.0	7.0	6.9	7.2	8.3	7.0	—	—
REAL DISPOSABLE PERSONAL INCOME (billions of 1982 dollars)	2,881.1	2,873.0	2,871.6	2,872.9	2,877.9	2,881.6	2,889.0	2,899.9	2,874.6	2,887.1	3.1	0.4
PERSONAL SAVING RATE (percent of disposable income)	5.7	5.1	4.9	4.6	4.5	4.1	3.9	3.8	5.1	4.1	—	—

Sources: Projections by Research Seminar in Quantitative Economics, University of Michigan; actual data from Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

*Without Commodity Credit Corporation transactions, the increases are 6.0% (1988-89) and 5.4% (1989-90).

Social Relationships and Health

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Scientists have long noted an association between social relationships and health. More socially isolated or less socially integrated individuals are less healthy, psychologically and physically, and more likely to die. The first major work of empirical sociology found that less socially integrated people were more likely to commit suicide than the most integrated. In subsequent epidemiologic research age-adjusted mortality rates from all causes of death are consistently higher among the unmarried than the married. Unmarried and more socially isolated people have also manifested higher rates of tuberculosis, accidents, and psychiatric disorders such as schizophrenia. Clinicians have also observed potentially health-enhancing qualities of social relationships and contacts.

The causal interpretation and explanation of these associations has, however, been less clear. Does a lack of social relationships cause people to become ill or die? Or are unhealthy people less likely to establish and maintain social relationships? Or is there some other factor, such as a misanthropic personality, which predisposes people both to have a lower quantity or quality of social relationships and to become ill or die?

Such questions have been largely unanswerable before the last decade for two reasons. First, there was little theoretical basis for causal explanation. Second, evidence of the association between social relationships and health, especially in general human populations, was almost entirely retrospective or cross-sectional before the late 1970s. Retrospective studies from death certificates or hospital records ascertained the nature of people's social relationships after they had become ill or died, and cross-sectional surveys of general populations determined whether people who reported ill health also reported a lower quality or quantity of relationships. Such studies used statistical control of potential confounding variables to rule out third factors that might produce the association between social relationships and health, but could do this only partially. They could not determine whether poor social relationships preceded or followed ill health.

In this article, we review recent developments that have altered this state of affairs dramatically:

- Emergence of theoretical models for a causal effect of social relationships on health in humans and animals;
- Cumulation of empirical evidence that social relationships are a consequential predictor of mortality in human populations; and
- Increasing evidence for the causal impact of social relationships on psychological and physiological functioning in experimental studies of humans and animals.

These developments suggest that social relationships, or the relative lack thereof, constitute a major risk factor for health – rivaling the effects of well-established health risk factors such as cigarette smoking, blood pressure, blood lipids, obesity, and physical activity. Indeed, the theory and evidence on social relationships and health increasingly approximate that available at the time of the U.S. Surgeon General's 1964 report on smoking and health, with similar implications for future research and public policy.

Early Theory and Research

The study of social relationships and health was revitalized in the middle 1970s by the emergence of a seemingly new field of scientific research on "social support." This concept was first used in the mental health literature, and was linked to physical health in separate seminal articles by physician-epidemiologists John Cassel and Sidney Cobb. These articles grew out of a rapidly developing literature on stress and psychosocial factors as causes of health and illness. Chronic diseases have increasingly replaced acute infectious diseases as the major causes of disability and death, at least in industrialized countries. Consequently, theories of disease causation have shifted from ones in which a single factor caused a single disease, to ones in which multiple behavioral and environmental as well as biologic and genetic factors combine, often over extended periods, to produce any single disease, and in which most factors contribute to multiple disease outcomes.

Cassel and Cobb reviewed more than 30 human and animal studies that found social relationships protective of health. Recognizing that any one study was open to alternative interpretations, they argued that the variety of study designs, of life stages studied, and of health outcomes involved suggested a robust, arguably causal, association. Cassel and Cobb indicated that social relationships might promote health in several ways, but emphasized the role of social relationships in moderating or buffering potentially deleterious health effects of stress or other health hazards. This idea of "social support," or something that maintains or sustains the organism by promoting adaptive behavior or physiologic responses in the face of stress or other health hazards, provided a general, albeit simple, theory of how and why social relationships should causally affect health.

Publications on "social support" increased almost geometrically from 1976 to 1981. By the late 1970s, however, serious questions emerged about the evidence cited by Cassel and Cobb and that generated in subsequent research. Concerns were expressed about causal priorities between

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Editor's note: This presentation is adapted from the authors' article of the same name which appeared in *Science*, Vol. 241 (29 July 1988), pp. 540-545. (Copyright 1988 by the AAAS.) Complete references and notes are provided in the *Science* article. The editor appreciates the permission granted by *Science* to adapt the article for this publication and to reproduce herein the figures from pp. 540 and 543 of their article.

social support and health (since the great majority of studies remained cross-sectional or retrospective and based on self-reported data), about whether social relationships and supports buffered the impact of stress on health or had more direct effects, and about how consequential the effects of social relationships on health really were. These concerns have been addressed by a continuing cumulation of two types of empirical data: (1) a new series of prospective mortality studies in human populations and (2) a broadening base of laboratory and field experimental studies of animals and humans.

Prospective Mortality Studies

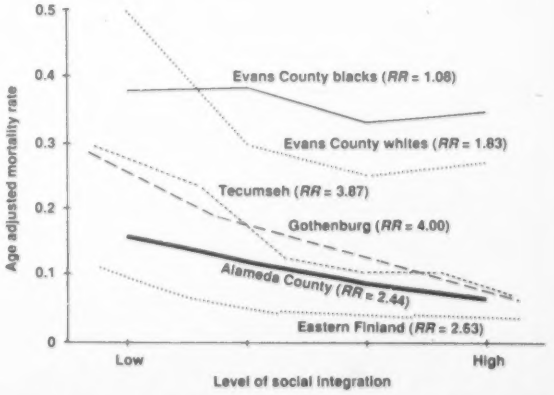
Just as concerns began to surface about the nature and strength of the impact of social relationships on health, data from long-term, prospective studies of community populations provided compelling evidence that lack of social relationships constitutes a major risk factor for mortality. One major study analyzed a probability sample of 4,775 adults in Alameda County, California (Oakland and environs), who were between 30 and 69 in 1965 when they completed a survey that assessed the presence or extent of four types of social ties – marriage, contacts with extended family and friends, church membership, and other formal and informal group affiliations. Each type of social relationship predicted mortality through the succeeding 9 years. A combined "social network" index remained a significant predictor of mortality (with a relative risk ratio for mortality of about 2.0, indicating that persons low on the index were twice as likely to die as persons high on the index) in multivariate analyses that controlled for self-reports in 1965 of physical health, socioeconomic status, smoking, alcohol consumption, physical activity, obesity, race, life satisfaction, and use of preventive health services. Such adjustment or control for baseline health and other risk factors provides a conservative estimate of the predictive power of social relationships, since some of their impact may operate through effects on these risk factors.

The major limitation of this study was the lack of other than self-reported data on health at the beginning of the study period. Thus, one of the authors of this article and associates sought to replicate and extend the Alameda County results in a study of 2,754 adults between 35 and 69 at their initial interview and physical examinations in 1967 through 1969 by the Tecumseh (Michigan) Community Health Study. Composite indexes of social relationships and activities (as well as a number of the individual components) were inversely associated with mortality during the succeeding 10- to 12-year follow-up period, with relative risks of 2 to 3 for men and 1½ to 2 for women, after adjustment for the effects of age and a wide range of biomedically assessed as well as self-reported risk factors of mortality. Researchers who studied 2,059 adults in Evans County, Georgia, found that a social network index similar to that used in the Alameda County study predicted mortality for an 11- to 13-year follow-up period, after adjustment for age and baseline measures of biomedical and self-reported risk factors of mortality. The Evans County associations were somewhat weaker than those in Tecumseh and in Alameda County, and as in Tecumseh were stronger for males than females.

Studies in Sweden and Finland have described similar results. One group of researchers studied men born in 1913 and 1923, and living in Gothenberg, Sweden's second largest city, in 1973. After adjustments for age, baseline levels of systolic blood pressure, serum cholesterol, smoking habits, and perceived health status, mortality in these men through 1982 was inversely related to the number of persons in the household and the men's level of social and outside home activities in 1973. Another group of researchers analyzed the mortality experience through 1981 of a random sample of 17,433 Swedish adults aged 29 to 74 at the time of their 1976 or 1977 baseline interviews. Frequency of contact with family, friends, neighbors, and co-workers in 1976-77 was predictive of mortality through 1981, after adjustment for age, sex, education, employment status, immigrant status, physical exercise, and self-reports of chronic conditions. The effects were stronger among males than among females, and were somewhat nonlinear, with the greatest increase in mortality risk occurring in the most socially isolated third of the sample. Finally, in a prospective study of 13,301 adults in predominantly rural eastern Finland, researchers found a measure of "social connections" similar to those used in the U.S. studies to be a significant predictor of male mortality from all causes during 5 years, again after adjustments for other biomedical and self-reported risk factors. Female mortality showed similar, but weaker and statistically nonsignificant, effects.

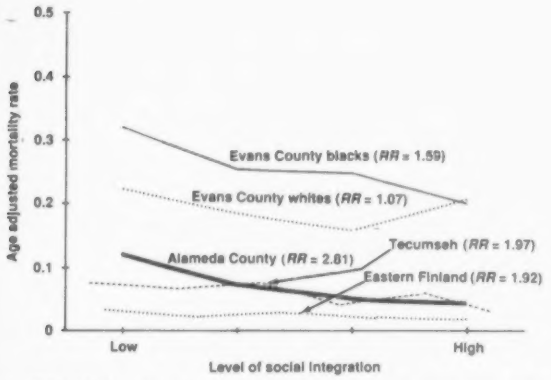
These studies manifest a consistent pattern of results, as shown in Charts 1 and 2, which show age-adjusted mortality rates plotted for the 5 prospective studies from which we could extract parallel data. The relative risks (RR) in the charts are higher than those reported above because they are only adjusted for age. The levels of mortality in the charts vary greatly across studies depending on the follow-up period and composition of the population by age, race, ethnicity, and geographic locale, but the patterns of prospective association between social integration (that is, the number and frequency of social relationships and contacts) and mortality are remarkably similar, with some variations by race, sex, and geographic locale.

CHART 1. Level of Social Integration and Age-adjusted Mortality for Males in Five Prospective Studies



Note: *RR* indicates the relative risk ratio of mortality at the lowest versus highest level of social integration.

CHART 2. Level of Social Integration and Age-adjusted Mortality for Females in Five Prospective Studies



Note: *RR* indicates the relative risk ratio of mortality at the lowest versus highest level of social integration.

Only the Evans County study reported data for blacks. The predictive association of social integration with mortality among Evans County black males is weaker than among white males in Evans County or elsewhere (Chart 1), and the relative risk ratio for black females in Evans County, although greater than for Evans County white females, is smaller than the risk ratios for white females in all other studies (Chart 2). More research on blacks and other minority populations is necessary to determine whether these differences are more generally characteristic of blacks compared to whites.

Modest differences emerge by sex and rural as opposed to urban locale. Results for men and women are strong, linear, and similar in the urban populations of Alameda County and Gothenberg, Sweden (only men were studied in the latter). In the predominantly small-town and rural populations of Tecumseh, Evans County, and eastern Finland, however, two notable deviations from the urban results appear: (1) female risk ratios are consistently weaker than those for men in the same rural populations (Charts 1 and 2), and (2) the results for men in more rural populations, although rivaling those in urban populations in terms of risk ratios, assume a distinctly nonlinear, or threshold, form. That is, in Tecumseh, Evans County, and eastern Finland, mortality is clearly elevated among the most socially isolated, but declines only modestly, if at all, between moderate and high levels of social integration.

Explanation of these sex and urban-rural variations awaits research on broader regional or national populations in which the same measures are applied to males and females across the full rural-urban continuum. The current results may have both substantive and methodological explanations. Most of the studies reviewed here, as well as others, suggest that being married is more beneficial to health, and becoming widowed more detrimental, for men than for women. Women, however, seem to benefit as much or more than men from relationships with friends and relatives, which tend to run along same-sex lines. On balance, men may benefit more from social relationships than women, especially in cross-gender relationships. Small communities may also provide a broader context of social integration and support that benefits most people, except for a relatively small group of socially isolated males.

On the other hand, measures of social relationships or integration used in the existing prospective studies may be less valid or have less variance in rural and small town environments, and for women, thus muting their relationship with mortality. For example, the data for women in Chart 2 are similar to the data on men if we assume that women have higher quality relationships and hence that their true level of social integration is moderate even when the number of relationships is small. The social context of small communities may similarly provide a moderate level of social integration for everyone except quite isolated males. Thus, measures of frequency of social contact may be poorer indexes of social integration for women and more rural populations than for men and urban dwellers.

Variations in the results in Charts 1 and 2 should not, however, detract from the remarkable consistency of the overall finding that social relationships do predict mortality for men and women in a wide range of populations, even after adjustment for biomedical risk factors for mortality. Additional prospective studies have shown that social relationships are similarly predictive of mortality in studies of people who are elderly or have serious illnesses.

Experimental Research

The prospective mortality data are made more compelling by their congruence with growing evidence from experimental and clinical research on animals and humans that variations in exposure to social contacts produce psychological or physiological effects that could, if prolonged, produce serious morbidity and even mortality. Cassel reviewed evidence that the presence of a familiar member of the same species could buffer the impact of experimentally induced stress on ulcers, hypertension, and neurosis in rats, mice, and goats, respectively; and the presence of familiar others has also been shown to reduce anxiety and physiological arousal in humans in potentially stressful laboratory situations. Clinical and laboratory data indicate that the presence of or physical contact with another person can modulate human cardiovascular activity in general, and in stressful contexts such as intensive care units. Research also points to the operation of such processes across species. Affectionate petting by humans, or even their mere presence, can reduce the effects of stressful situations among dogs, cats, horses, and rabbits. It has also been found that human handling reduced the artery-damaging impact of a high fat diet in rabbits. Recent interest in the potential health benefits of pets for humans, especially the isolated aged, is based on similar notions, although the evidence for such efforts is only suggestive.

The epidemiologic evidence linking social relationships and supports to illness in humans is limited and not fully consistent. For example, although laboratory studies show short-term effects of (inadequate) social relationships on cardiovascular functioning that would, over time, produce cardiovascular disease, and prospective studies show impacts of social relationships on mortality from cardiovascular

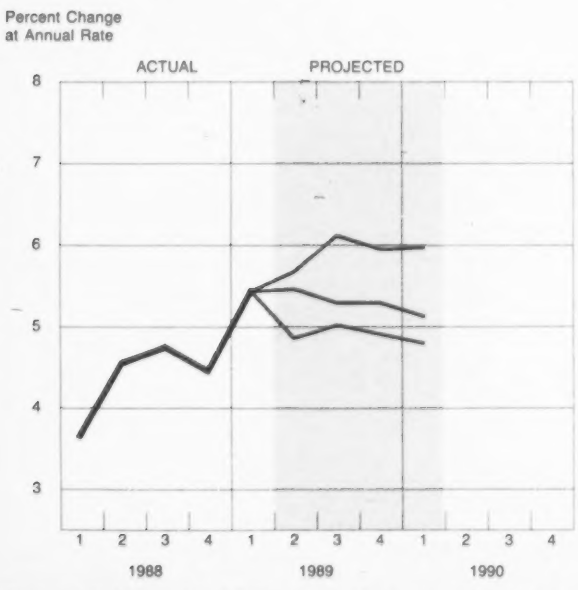
disease, the link between social relationships and the incidence of such disease has yet to be firmly demonstrated. Overall, however, the theory and evidence for the impact of social relationships on health are building steadily.

Social Support and Policy Issues

The extent and quality of social relationships experienced by individuals is certainly affected by biology and personality, but it is also a function of broader social forces. Whether people are employed, married, attend church, belong to organizations, or have frequent contact with friends and relatives, and the nature and quality of those relationships, are determined in part by their positions in a larger social structure that is stratified by age, race, sex, and socioeconomic status and is organized in terms of residential communities, work organizations, and larger political and economic structures. Older people, blacks, and the poor are generally less socially integrated, and differences in social relationships by sex and place of residence have been discussed in relation to Charts 1 and 2. Changing patterns of fertility, mortality, and migration in society affect opportunities for work, marriage, living and working in different settings, and can even affect the nature and quality of these relations. These demographic patterns are themselves subject to influence by both planned and unplanned economic and political change, which can also affect individuals' social relationships more directly – witness the massive increase in divorce during the last few decades in response to the women's movement, growth in women's labor force participation, and changing divorce law.

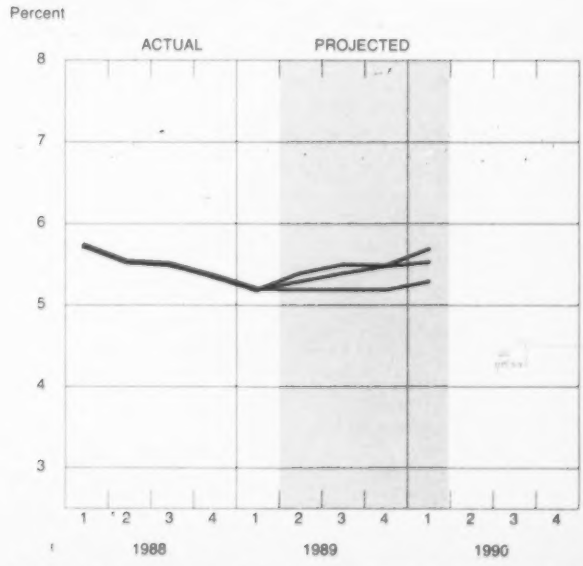
In contrast with the 1950s, adults in the United States in the 1980s were less likely to be married, more likely to be living alone, less likely to belong to voluntary organizations, and less likely to visit informally with others. Changes in marital and childbearing patterns and in the age structure of our society will produce in the 21st century a steady increase of the number of older people who lack spouses or children – the people to whom older people most often turn for relatedness and support. Thus, just as we discover the importance of social relationships for health, and see an increasing need for them, their prevalence and availability may be declining. Changes in other risk factors (for example, the decline of smoking) and improvements in medical technology are still producing overall improvements in health and longevity, but the improvements might be even greater if the quantity and quality of social relationships were also improving.

CONSUMER PRICE INDEX



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

UNEMPLOYMENT RATE



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

Generations and Collective Memories: Part 1*

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That each generation receives a distinctive imprint from the social and political events of its youth is an old idea, most often associated with the name of Karl Mannheim. Mannheim did not define generation with any precision, and in fact he emphasized that a generation is a social creation rather than a biological necessity. Where novel events are rare and change is slow, as in traditional peasant societies, distinct generations may not appear. Only where events occur in such a manner as to demarcate a cohort in terms of its "historical-social" consciousness, should we speak of a true generation.[1]

Although Mannheim emphasized the socially constructed nature of a generation, implicit in his discussion was also the concept of "life course." His essay is not entirely clear on the point at which a cohort begins to develop a unique generational character, but he seems to specify "the age of 17, sometimes a little earlier and sometimes a little later." He further suggests that age 25 may well mark the terminal point of major generational formation. Thus Mannheim assumed, as have almost all later writers, that "late adolescence and early adulthood are the formative years during which a distinctive personal outlook on politics emerges."

Subsequent interest in the generational concept has been motivated largely by a belief in its potential explanatory power for understanding individual and collective political behavior. In simplest terms, the generational character created by the events a cohort experiences during its youth is assumed to exert an important, even decisive, influence on the later attitudes and actions of its members.

However, the attempt to go directly from the formal delineation of cohorts in terms of age to the prediction of later behavior skips an important step: that of identifying what earlier experience is carried forward in memory by a particular cohort. The generational hypothesis explored here is that experience from adolescence and early adulthood is carried forward with at least some self- awareness. Thus the belief that the Depression generation will be frugal usually assumes memories that are at least partially conscious.

In our research we focused directly on the formative events and changes that cohorts are assumed to have experienced in the past and to carry with them into the present. We ask whether there are memories that distinguish one cohort from another, and whether cohorts defined initially in arbitrary age terms can be redefined generationally by the qualitatively distinct events and changes that are currently predominant in memory. This then is a study of the collective political and societal memories of a cross-section sample of the American population, and our initial hypothesis is that these memories will be structured along the age dimension in ways that point to important cohort effects. We will also explore possible interactions between generational effects and major stratification variables (education, race, and gender), since it is possible that effects are limited to or magnified in certain social divisions of the population.

A more specific hypothesis is that the events and changes that have maximum impact in terms of memorableness occur during a cohort's adolescence and young adulthood, often referred to as "youth." There are three types of consideration that point to this period as the critical one for generational effects. First and most obviously, we assume that people will tend *not* to recall as important those events and changes that preceded their own lifetime. As Mannheim stated it, only knowledge "personally gained in real situations. . . sticks," and thus even very important political events and changes that preceded one's life should not have registered very clearly. Maurice Halbwachs makes a similar point in distinguishing between autobiographical and historical memory, the former richer and more personally meaningful than the latter, and recent evidence on the attitude-behavior connection provides further indirect support for the importance of direct experience.

Second, although by elementary school age, children are fairly well developed in terms of language and other abilities, there is considerable evidence that they have only a very superficial grasp of the political world beyond their family and other personal relationships. Apparently an awareness of larger political events and changes does not appear until early adolescence. The extent to which this is largely a result of intellectual maturation, or psychosocial development of personal identities, or of changes in social expectations and opportunities is a matter of dispute; but consistent with Mannheim's assumption, developmental psychologists view youth as a kind of "critical period" for learning about the larger society, almost in the same sense that earlier years are critical for other developmental tasks, for example, the acquisition of language.

Third, we expect that most people will tend *not* to recall as important those events and changes that occur after their early

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Editor's note: This presentation is adapted from the authors' article of the same name published in *American Sociological Review*, 1989, Vol. 54 (June:359-381). A second part will be presented in the final issue of ECONOMIC OUTLOOK USA (Vol. 16, No. 1). Complete references and notes are provided in the *ASR* article. We appreciate the permission granted by the American Sociological Association to republish the material here, and to reproduce Charts 1-5 from the original article.

*Philip E. Converse contributed in important ways to the development of the research on which this study is based. The article is based on research supported by the National Science Foundation (SES-8410078).

[1]We will use the term *cohort* descriptively to refer to "the aggregate of individuals (within some population definition) who experienced the same event within the same time interval" (Norman Ryder), but treat *cohort effect* and *generation* as having the additional implication of long-lasting, if not permanent, change in the cohort. In Mannheim's usage, generation has the still further implication of ideological distinctiveness, whereas a cohort effect can include social or demographic changes that may or may not have direct ideological effects. *Generation* is sometimes limited to lineage relations, but in this paper the wider meaning of the term is employed.

adulthood. The events that register most strongly during adolescence and early adulthood have the great advantage of primacy, and research in experimental settings suggests that primacy effects are especially strong on impression formation. Moreover, primacy should be much more important in the life course than in standard laboratory experiments, since striking political events that occur during adolescence or early adulthood are primary in a more fundamental sense, both disrupting the taken-for-granted natural world of childhood and providing an induction into the larger political and social world. In Mannheim's view there is a "fresh" encounter with the political world at that point that can seldom be duplicated in later life. More dramatically, Fred Davis speaks of noteworthy historic events during adolescence that rip "the larger existential fabric of our being-in-the-world," and thus leave an indelible impression in memory.

In summary, our paper reports investigations of three closely connected hypotheses. First, after identifying in an open-ended manner major collective memories about the past half century, we test whether these memories are structured by age in a way that points clearly to generational differences. Second, if such generational effects occur, we ask whether they fit the model of adolescence and early adulthood as the primary source of political and social memories. Third, we compare the meaning of such youthful memories with those that occur from other periods of the life course, with the expectation that even the latter memories can best be understood by taking into account the adolescent and early adult experiences of the rememberers.

In describing our investigation as one dealing with "collective memories," we make use of a term advanced by Halbwachs to describe memories of a shared past that are retained by members of a group, large or small, that experienced it. The concept is both suggestive and difficult to specify clearly. Initially, we use it to refer to shared memories of societal-level events, but in our concluding section (forthcoming in the next issue) we draw on our results to distinguish among several possible meanings of "collective memories."

Method and Data

We pursued these ideas in 1985 by asking a probability sample of 1,410 Americans, 18 years and older, to think of "national or world events or changes" that have occurred over the past 50 years and to name "one or two. . . that seem to you to have been especially important." Both "events" and "changes" were always mentioned together, since we wished to include both time-bound occurrences and more general social movements or changes, and each respondent was encouraged to give two such events or changes. (The full question is presented in the footnote to Table 1.) We then asked each respondent why he or she chose each event or change, to be discussed in part 2 of this presentation.

Selected Events and Changes

The half century marked off by the period of approximately 1930 to 1985 was a momentous one for the United States. It included three major wars, important movements to effect changes in race and gender relations, the development of nuclear weapons, repeated acts of political terrorism abroad and assassination at home, and. . . . One could go on and on. Certainly it was a half century full of both specific events and broader changes that might be remembered by Americans. Our initial interest is in which ones are remembered as important. (Although we will use words like "recall" and "remember," some respondents who mention an early event or change will be too young to have experienced it personally; what is presumably remembered is having heard or read about it.)

World War II and Vietnam are clearly the most frequently recalled events or changes from the past five decades, as shown in Table 1, with 29 percent and 22 percent, respectively, mentioning one or the other of these two wars.[2] Along with the two wars, we will include in our primary analysis the next listed 10 events and changes as well. Six of these were mentioned by more than 5 percent of the sample: space exploration, the assassination of John F. Kennedy, civil rights, the nuclear threat, advances in communication and transportation, and the 1930s Depression. In addition, we include the next four most frequent mentions; although not quite making the 5 percent threshold, they are close to it and all are of considerable intrinsic interest – the development of the computer, terrorism (mainly the 1979 hostage-taking in Iran), moral decline, and women's rights.

Altogether, 82 percent of the 1,253 respondents who were able to mention any event or change mentioned at least one that fell into these 12 categories. We shall therefore concentrate our analysis on these "major" categories, which range from time-bound events such as World War II to broader changes like civil rights that are difficult to describe in terms of precise dates. Since there is a high correlation between an event or change being mentioned at all and its being mentioned first, our analysis will treat each major category dichotomously: mentioned at all or not mentioned. Other analysis using only first mentions produces results for age generally quite consistent with what will be presented here.

The 12 major events and changes are listed in Table 1 in a straightforward way, but judgment is necessarily involved in creating and using such categories. Even a well-demarcated "event" such as World War II consisted of a complex series of more specific events (the attack on Pearl Harbor, the invasion of North Africa, the surrender of Germany, etc), and the placement of these under the label "World War II" is an act of conceptualization, since historical reality is an undivided stream. In the case of World War II, the conceptualization is provided by the larger culture, and a reexamination of the 367 respondents coded into that category shows that 310 answered by using the exact words "World War II." However, we have also included within the category respondents whose answers

[2]The base for percentages in the first column in Table 1 is the 1,253 respondents who mentioned at least one event or change in answer to our question. (We deal below with 157 respondents included in our sample who were unable to mention any event or change but who answered other questions that were part of our study.) In the last column the same base of 1,253 is used, but the percentage in each row is for those who mentioned each event, whether as a first mention or a second mention, as against all those who did not mention the event. For example, 29.3 percent of the 1,253 respondents mentioned World War II and 70.7 percent did not mention it. The percentages in this last column are not mutually exclusive, since those who gave two responses appear in two categories. Thus the column does not add to 100 percent.

TABLE 1. Highly Mentioned Events and Changes

Event	Percent First Mention	Number First Mention	Number Second Mention	Combined Number	Percent of Respondents Mentioning[a]
*World War II	21.3%	267	100	367	29.3
*Vietnam War	11.6	145	131	276	22.0
*Space exploration	7.4	93	66	159	12.7
*Kennedy assassination	5.0	63	48	111	8.8
*Civil rights	6.1	77	30	107	8.5
*Nuclear war, threat of	4.5	56	42	98	7.8
*Communication/transportation	3.7	46	31	77	6.1
*Depression	4.6	58	12	70	5.6
*Computers	1.8	23	26	49	3.9
*Terrorism	1.5	19	24	43	3.4
*Moral decline	2.9	28	13	41	3.3
*Women's rights	1.6	20	17	37	3.0
Reagan's presidency	1.6	20	15	35	2.8
Nixon (Watergate)	0.7	9	26	35	2.8
Inflation	1.6	20	14	34	2.7
Medical advances	1.1	14	19	33	2.6
Social security	1.8	23	6	29	2.3
Nuclear power	1.2	15	14	29	2.3
Unemployment problems	1.2	15	11	26	2.1
Korean War	1.0	12	14	26	2.1
War in general	1.0	13	11	24	1.9
Soviet Union, Cold War	1.0	12	9	21	1.7
World hunger	1.1	14	6	20	1.6
Education, better/worse	1.0	12	4	16	1.3
F.D. Roosevelt	0.9	11	5	16	1.3
Israel, creation of	0.7	9	4	13	1.0
Peace movement	0.6	8	5	13	1.0
Farm problems	0.6	7	5	12	1.0
Middle East	0.4	5	7	12	1.0
Central America	0.6	7	4	11	0.9
Economic improvement	0.6	7	3	10	0.8
Immigration	0.5	6	4	10	0.8
Miscellaneous	9.5	119	96	201	16.0
Total	100.0%	1253	840	–	–
Base *N*	(1253)				(1253)

*Major events and changes.

[a]Each row represents a dichotomy of those mentioning the event at all divided by the total ($N = 1253$) mentioning any event.

Event/Change Question

The next questions concern how people think about the past. There have been a lot of national and world events and changes over the past 50 years – say, from about 1930 right up until today. Would you mention one or two such events or changes that seem to you to have been *especially* important. There aren't any right or wrong answers to the question – just whatever *national or world events or changes* over the past 50 years that come to mind as important to you. (IF ONLY ONE MENTION, ASK: Is there any other national or world event or change over the past 50 years that you feel was especially important?)

referred to "Pearl Harbor," to "the end of World War II," or in a few cases to some other event that seemed to fit best there. Thus, even for the simplest event categories, some judgments were needed both in creating the code and in actual coding.

Other categories in Table 1 are less tightly constrained by specific dates and cultural definitions; for example, Women's Rights includes positive responses that refer to greater employment opportunities for women, positive references to the Equal Rights Amendment (ERA), mentions of the Women's Movement, and similar answers. In this case, more conceptualization was required on our part than was true for World War II. In our subsequent analysis we have tried to remain sensitive to variation within, as well as between, categories, and at points we will note tests carried out to make certain that the labels in Table 1 do not become so reified as to prevent discovery of important relationships at other levels of conceptualization.

One grouping that requires note is not represented at all in Table 1: the 157 individuals out of our total sample of 1,410 who answered other questions in our study but were unable (or conceivably unwilling) to mention even one event or change over the past 50 years that seemed important to them. By far the most powerful background factor that accounts for the lack of historical memory is education. Most of the people

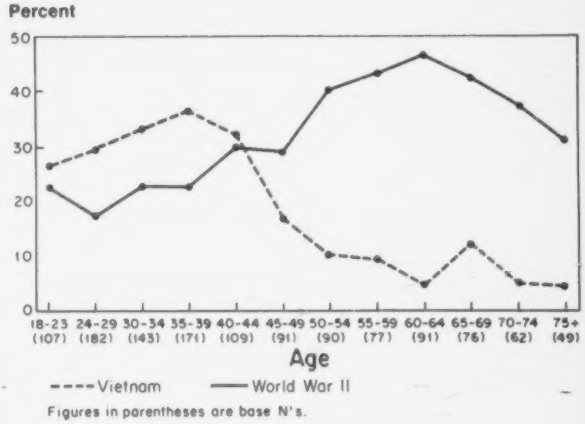
with no apparent memory of events or changes are located among those without college education: 17 percent of those with no college experience, as against 4 percent of those with any college experience at all.

Generational Effects

Our first interest is in determining whether generation, operationalized in the form of age categories, helps explain mentions of events and changes as important in response to our initial question. The simplest form of the generational hypothesis – that people of all ages will tend to report events and changes from their youth – is supported remarkably well for the majority of the 12 major events and changes, as will be seen in Charts 1 to 5, to be discussed in detail. (The exact percentages that are graphed in the charts are available on request.) The figures present bivariate relations between age and each major category, but the relations have also been tested using logistic regressions that included education, gender, and race; the results from such tests are reported in Table 2, both for control purposes and in order to provide comparisons of the sizes of the age effects with those attributable to the other three variables. In addition, since for events that occurred toward the middle of the 50-year period, the generational hypothesis about youth predicts curvilinearity, we regularly included in the logistic analysis a quadratic term for age. In no case do the controls for education, gender, and race alter substantially the main effect of age, and for most events on which age has a significant effect at all, it is the strongest of the predictors, often with both linear and curvilinear trends registering as significant. We also explored interactions between age and education, gender, and race; the four such interactions discovered will be noted at later points.

Wars. We begin with two major wars in which the United States has been engaged over the past 50 years. Chart 1 shows that nominations of World War II as especially important are relatively high and sharply demarcated among those in their 50s and 60s in 1985. Nominations of the Vietnam War are high among those 18 to about 44, and especially among those in their 30s and early 40s, but decline rapidly at later ages.

CHART 1. World War II and Vietnam Mentions by Age



Figures in parentheses are base N's.

If we transpose the present peak ages to the ages of the respondents at the beginning and end of each war, we find that the highest proportions of mentions occur as follows:

	Beginning	*End*
World War II (1941-1945):	16-20	20-24
Vietnam War (1965-1973):	15-19	23-27.

There is the clear beginning date of 1941 for World War II, and we use 1965 as the year in which the Vietnam War "could be considered as having started as far as the American public was concerned" (John Mueller's words). The transposed peaks of 16 to 24 for World War II and of 15 to 27 for Vietnam are remarkably close to the 17 to 25 age range identified by Mannheim as critical for generational formation.

TABLE 2. Relations of Major Event/Change Categories and Age, Education, Gender, and Race: Significant *t*-Ratios[a]

	World War II	Vietnam	Space	Civil Rights	Kennedy	Nuclear	Comm. & Transp.	Depression	Computers	Moral Decline	Terrorism	Women's Rights
Education	5.63	(1.89)	–	2.35	–	–	–	2.00	2.74	–	–	–
Gender	−3.12	–	–	–	2.27	−2.30	–	–	–	–	–	3.66
Race	−3.66	−3.70	(−1.90)	10.99	–	–	–	–	–	–	–	–
Age (linear)	6.83	−8.26	–	–[b]	−3.65	−2.93	3.52	4.63	–	–	−4.08	−2.11[c]
Age (squared)	(−1.68)	−3.82	–	–[d]	−4.52	–	–	2.22	–	–	(1.75)	–

[a]Based on logistic analysis of each major event or change using four predictors: age (6 categories), education (6 categories), gender (1 = Men, 2 = Women), race (1 = White, 2 = Black). The cell figures are statistically significant ($p < .05$) *t*-ratios (coefficient/standard error), with those in parentheses of borderline significance ($.10 > p > .05$). Each analysis was done with and without an additional term for age squared to test for curvilinearity; if the age-squared term was not significant, results are shown only for the model omitting it. The sample size for these analyses was 1165, a number smaller than that for Table 1 because only whites and blacks are included for the race variable. Nominal two-tailed statistical significance levels for this table are: $t = 1.64$, $p < .10$; $t = 1.96$, $p < .05$; $t = 2.58$, $p < .01$; $t = 3.29$, $p < .001$.

[b]The *t*-ratios for age for blacks and whites separately on Civil Rights are 2.42 and .27, respectively.

[c]The *t*-ratios for men and women separately on Women's Rights are −.48 and −2.06, respectively.

[d]The *t*-ratio for age squared for blacks on Civil Rights is −1.89.

Whatever credence we give to these exact estimates, it is apparent from Chart 1 that memories are strongest for those in their youth at the time of the event. This finding arises, however, from two different sources. On the one hand, those now too young to have directly experienced a war during their adolescence (below age 50 in the case of World War II) are less likely to mention the event, presumably because it was simply not part of the world they knew personally. On the other hand, those who were beyond their youth at the time of an event – beyond present age 45 with reference to the Vietnam War – are also less likely to mention it, probably because it is overshadowed by earlier events that dominate their memories. We should emphasize that, since respondents were encouraged to name two events or changes, the fact that a person mentioned World War II in no way precluded their mentioning Vietnam also. Yet of those 50 to 74 years in age who gave World War II and who gave one other event/change, only 11 percent mentioned Vietnam, a percentage essentially the same as the figure (12 percent) for those of the same age range who did not give World War II as one of their two mentions. Thus, it is not only that older people tend to remember World War II, but also that such people tend *not* to mention a war that occurred after their youth.

Other clearly datable events. Three other clearly datable categories are the Depression, the assassination of John F. Kennedy in 1963, and terrorism (consisting almost entirely of responses about the 1979 Iran hostage-taking and subsequent terrorist incidents). All three of these events show clear relations to age, as indicated in Chart 2.

Not many respondents mention the Depression, but the modal age of those who do is in the 70s and over category, so that these people are even older than those mentioning World War II, as they should be according to the generational hypothesis. (However, because of small samples at the oldest ages, it is not practical to identify a highest age range for mentions in this case.)

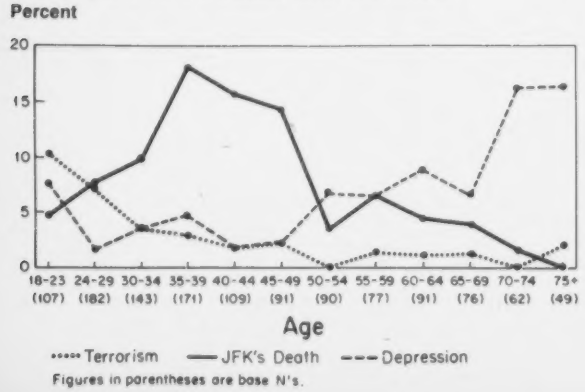
John Kennedy's assassination is given especially by people now in their late 30s and their 40s, which means teens to early and mid-20s in 1963 when the event occurred. One might also expect still younger persons to mention this particular event because recognition and idealization of the president appears earlier than other political awareness, and in addition television brought the dramatic impact of Kennedy's assassination directly into most American homes. Although the peak age of mentions is by individuals who were 15 in 1963, persons then 8 to 12 years old are also relatively high in naming the assassination as important.

Finally, terrorist incidents, which captured public attention in late 1979 with the hostage-taking in Iran and continued into the 1980s, are mentioned most often by the youngest members of our sample – that is, by those who had not experienced most of the other major events and changes but who were at least entering their teens when the Iran hostage incident began. In sum, these three events, like the two major wars, are recalled most readily by those in a narrow age band of teens to middle 20s when each occurred.

Broader changes. Two changes less easy to connect with specific dates but nevertheless amenable to age-related interpretation are shown in Chart 3. First, advances in communication and transportation include mentions such as the development of radio and television and of the jet airplane. Not surprisingly, these are reported as important changes disproportionately by older Americans, who witnessed such extraordinary advances in their own lifetimes. For younger Americans, television and jet planes are part of their natural world and not something to be remarked on.

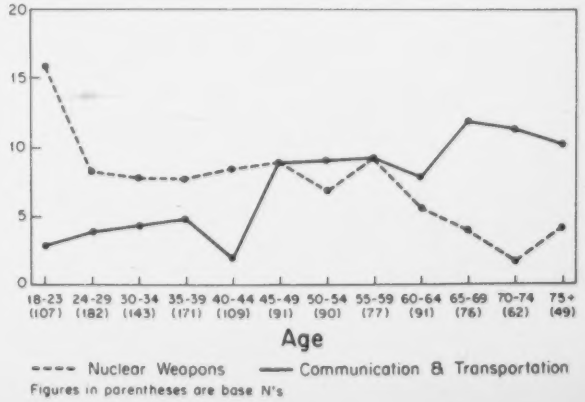
One might have expected a somewhat similar relation of age to the category "nuclear war," since the initial impact of the atomic and hydrogen bomb developments go back to 1945 and 1950, respectively, and the 1950 date was also caught up in growing U.S./Soviet hostilities. However, Chart 3 shows almost the opposite: responses about nuclear war, which include both nuclear weapon developments and nuclear disarmament talks (but not nuclear power), are associated with younger ages. Our interpretation here cannot be as straightforward in terms of simple age-related experience as for previous categories, but it is likely that a general increase in concern about nuclear destruction over the recent past is responsible in part for this age effect. Various antinuclear movements gained considerable ground in the years just

CHART 2. Other Datable Events by Age: Depression, JFK's Death, and Terrorism



Figures in parentheses are base N's.

CHART 3. Other Changes by Age: Nuclear, Communication and Transportation



Figures in parentheses are base N's

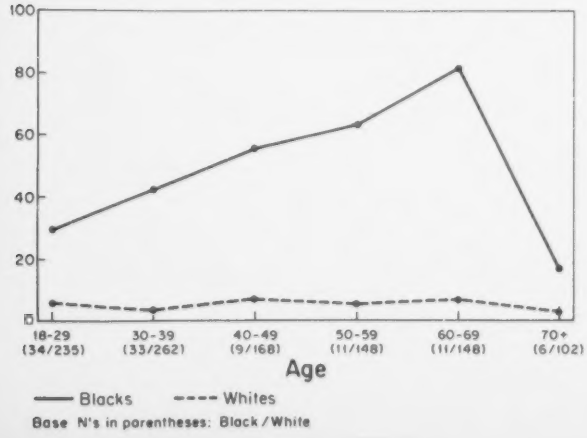
preceding 1985, and these both result from and have further raised national consciousness on the nuclear issue. Thus, to the extent that the issue has been reborn as a new one, like all new issues it has impressed the young most of all, if only because it does not compete in their minds with "old" events and changes. From this perspective, mentions of nuclear weapons are similar to mentions of terrorism. In addition, however, it seems possible that there is a life cycle effect also, in that it is the young who will be particularly anxious about growing up in a world, and bringing children into a world, that may be destroyed by nuclear war. Older people are probably less concerned about such apocalyptic visions because their worries center on aging and illness, the loss of loved ones, and other more personal harbingers of mortality.

Civil rights and women's rights. For these two social changes, it is only the group most directly affected — blacks and women, respectively — who show a clear relation to age (see Charts 4 and 5, which use only six age breaks because of the smaller number of cases when racial and gender subsamples are graphed). On civil rights, it is older blacks who are most likely to offer this as important (although not the very oldest if the small case base of blacks 70 and over can be trusted). The drop among younger blacks can readily be attributed to the lack of recent civil rights activities, since they were too young to experience the height of such activity in the 1954-1965 period. (The generally high levels of mentions among blacks at all ages no doubt reflect the breadth of impact across the black population of the civil rights movement.) It is difficult to explain the null age relationship for whites, especially since the proportion of whites mentioning civil rights (5.2 percent) would place it fairly high in Table 1 even with black respondents omitted. We have no satisfactory interpretation of the puzzling absence of an age trend in this case.

In the case of women's rights, the number of mentions by men is so small ($n = 5$) that the lack of an age relation does not merit speculation. The number of mentions by women is also not large ($n = 32$), but there is a marginally significant relation to age ($p < .05$), with younger women more likely to mention the women's movement or associated responses, readily

CHART 4. Civil Rights by Age and Race

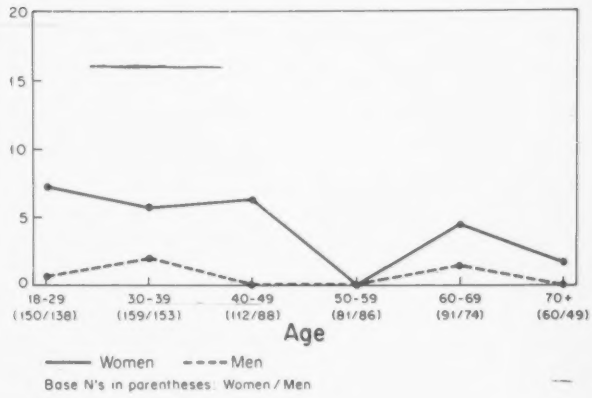
Percent



Base N's in parentheses: Black / White

CHART 5. Women's Rights by Age and Gender

Percent



Base N's in parentheses: Women / Men

understandable in terms of its more recent origin as compared with the civil rights movement. The usual nonlinearity beyond age 49 must be interpreted with caution (neither a quadratic nor a cubic term is significant in the logistic regression); however, it is worth noting that women now in their 60s were in their 20s during World War II, a point at which women were briefly encouraged to move into male occupations, while the women now in their 50s who do not mention women's rights at all were maturing during the postwar period that emphasized marriage, motherhood, and homemaking.

Space exploration and the development of computers. Next we turn to two types of scientific change that might have been expected to be related to age — especially for those who associate technological innovation with youth — but are not. (The absence of relations to age holds not only for the sample as a whole, but for such major sample components as high- and low-educated respondents.) We thought that in the case of space exploration this might be due to the heterogeneous content of the category, and therefore carried out a separate analysis that focused on only those respondents (49 out of 159) who specifically mentioned man's first landing on the moon in 1969. Despite our successful isolation of this specific event, as starkly dramatic on television as was the assassination of President Kennedy six years earlier, there is not a hint of any relation to age.

Mentions of the computer also show no sign of a relation to age. In this case there is no single dramatic point in time, but we are able to separate the sample into those who, to a later question, report having used a computer in some way (41 percent of our total sample) and those reporting no use (59 percent): neither set of respondents shows any relation of mentions of computers to age, and indeed there is only an insignificant trend for those who have used computers to mention them as important more frequently than do non-users of computers. (However, we have found other evidence that in the case of computers the open question may not have adequately encouraged spontaneous mentions.)

The fact that so many events and changes are related clearly and meaningfully to age suggests that we ought to take seriously the absence of such a relationship for space

exploration and for computers. Apparently people at all ages attend more or less equally to space exploits – the third most highly mentioned category in Table 1 – and all ages must also have been influenced at least vaguely by the emergence on the scene of the computer. Perhaps for the old, these nonpolitical categories do not face interference from earlier events such as World War II, while at the same time the continuing exploits in each area prevent the young from taking either for granted. However, when we come to the reasons that people give for mentioning space exploration, we will see that cohorts do differ in their perception of the same event.

Moral decline. The category Moral Decline is different in character from all other political and technological changes discussed thus far. It covers a variety of responses referring to crime, abortion, drugs, sexual promiscuity, alcohol, loss of religion, or other similar problems. Since in many instances respondents mentioned several together, or themselves used a general term like "moral decline," we created a single category with this label. It seemed likely that such concerns would be voiced more often by older or at least middle-aged Americans, but, surprisingly, there is no sign of such a relation overall. A plausible interpretation is that a rising concern with such issues as abortion and drugs has affected the young in a way that balances the presumed tendency for older people to be troubled over a more general long-term change in values from the era in which they grew up. If purely present concerns (e.g., "too much use of drugs and sex") are separated out from those that make an explicit contrast with the past (e.g., "the growing lack of religious respect among the younger people"), the trend is for the former to be given by younger respondents and the latter by older respondents (gammas of – .20 and + .25, respectively, in the associations with age). The number of cases, however, is too small for this finding to be more than suggestive, and the interaction of age by mention (past versus present concern) is not significant ($p > .10$).

Other Background Factors

Our presentation has focused on the bivariate relations of age to memories of events and changes. Not only are these relations maintained when education, gender, and race are included in the logistic regressions reported in Table 2, but age is the most frequent and for most memories the strongest predictor in the table. Some of the other predictors may be of independent interest (e.g., World War II is mentioned more often by highly educated than by less educated respondents), but extended comment on these taken alone is not relevant to our present concern with generational effects. Furthermore, in none of the 12 cases does education interact significantly with age in yielding memories of events, and in only two instances each do race and gender produce such interactions. Only blacks show an age relation to mentions of civil rights, as noted in connection with Chart 4, and in addition only whites show the relation for mentions of Vietnam presented in Chart 1, perhaps because of black preoccupation with civil rights during much the same years. Only women show the age relation to women's rights, as noted in connection with Chart 5, and moral decline is mentioned more by older women (gamma = .23) and by younger men (– .34), but this difference is too close to borderline in significance to justify speculative interpretation here. In sum, age is clearly the most general predictor of memories for events and changes over the past 50 years, and the graphing of the age relations provides strong evidence that in all or almost all such cases, age represents cohort effects, which in turn have their origins in adolescence and early adulthood.

Publication to Cease after Next Issue

Because of a declining base of subscribers and difficulty in obtaining appropriate content, we regret to tell you that the final issue of this publication will be Volume 16, Number 1. Subscribers who have paid for issues beyond 16:1 will receive a full (pro rata) refund.

Although we have examined various alternatives, we have been unable to find a satisfactory solution to the problems of finances and content. We appreciate the support of subscribers during the 15-year history of ECONOMIC OUTLOOK USA and hope that we have served a useful purpose during this period.

Actual and Projected Economic Indicators

seasonally adjusted

SERIES FORECAST BY THE ASA-NBER PANEL													
ECONOMIC INDICATOR	Quarterly Data										Annual Data		
	Actual					Projected					Actual	Projected	
	1988:1	1988:2	1988:3	1988:4	1989:1	1989:1	1989:2	1989:3	1989:4	1990:1	1988	1989	1990
GROSS NATIONAL PRODUCT	4,724.5	4,823.8	4,909.0	4,999.7	5,105.0	5,094.0	5,173.0	5,255.0	5,328.0	5,409.4	4,864.3	5,211.0	5,515.0
GNP IMPLICIT PRICE DEFLATOR (index, 1982 = 100)	119.4	121.0	122.4	124.0	125.2	125.1	126.3	127.9	129.3	130.8	121.7	127.2	132.7
CORPORATE PROFITS AFTER TAXES	149.4	162.7	169.1	174.5	171.6	173.0	173.0	172.0	175.0	175.5	163.9	173.0	178.0
UNEMPLOYMENT RATE (percent)	5.70	5.50	5.47	5.33	5.17	5.30	5.40	5.50	5.60	5.65	5.50	5.48	5.80
INDUSTRIAL PRODUCTION (index, 1977 = 100)	134.5	136.0	138.4	139.9	140.6	141.0	142.0	143.0	143.0	143.0	137.2	142.0	144.0
NEW PRIVATE HOUSING UNITS STARTED (millions)*	1.477	1.477	1.467	1.559	1.514	1.520	1.480	1.440	1.420	1.415	1.495	1.470	1.467
CONSUMER PRICE INDEX (annualized percent change from prior quarter or year)*	3.63	4.54	4.73	4.44	5.42	4.60	5.00	4.85	4.85	4.70	4.08	4.80	4.60
3-MONTH TREASURY BILL RATE (%)	5.76	6.23	6.99	7.70	8.53	8.45	8.75	8.80	8.40	8.00	6.67	8.60	7.75
NEW HIGH-GRADE CORPORATE BOND YIELD (percent)	9.64	10.08	10.14	9.96	NA	10.00	10.20	10.30	10.30	10.20	9.96	10.20	9.95
GNP IN 1982 DOLLARS	3,956.1	3,985.2	4,009.4	4,033.4	4,076.5	4,074.0	4,095.0	4,115.0	4,126.0	4,140.0	3,996.0	4,102.0	4,164.0
PERSONAL CONSUMPTION EXPENDITURES (1982 dollars)	2,559.8	2,579.0	2,603.8	2,626.2	2,633.6	2,638.5	2,653.0	2,622.5	2,674.0	2,685.0	2,592.2	2,656.2	2,698.5
NONRESIDENTIAL FIXED INVESTMENT (1982 dollars)	473.4	490.2	495.0	491.4	500.5	499.7	505.4	512.2	512.9	508.1	487.5	506.5	507.4
RESIDENTIAL FIXED INVESTMENT (1982 dollars)	189.5	189.6	191.6	196.6	193.9	198.0	196.5	196.0	194.5	194.3	191.8	197.5	197.0
CHANGE IN BUSINESS INVENTORIES (1982 dollars)	66.0	35.3	39.5	29.1	38.0	40.0	32.0	28.0	27.0	28.5	42.5	30.0	28.0
NET EXPORTS (1982 dollars)	−109.0	−92.6	−93.9	−105.4	−87.8	−95.0	−89.7	−87.0	−83.0	−78.4	−100.2	−89.0	−70.0
FEDERAL GOVERNMENT PURCHASES (1982 dollars)	327.8	331.6	320.1	335.0	335.8	333.0	334.0	334.0	335.0	332.5	328.8	333.0	332.0
STATE AND LOCAL GOVERNMENT PURCHASES (1982 dollars)	448.7	452.2	453.4	460.0	462.4	461.0	463.3	464.2	466.0	468.5	453.6	463.0	472.0

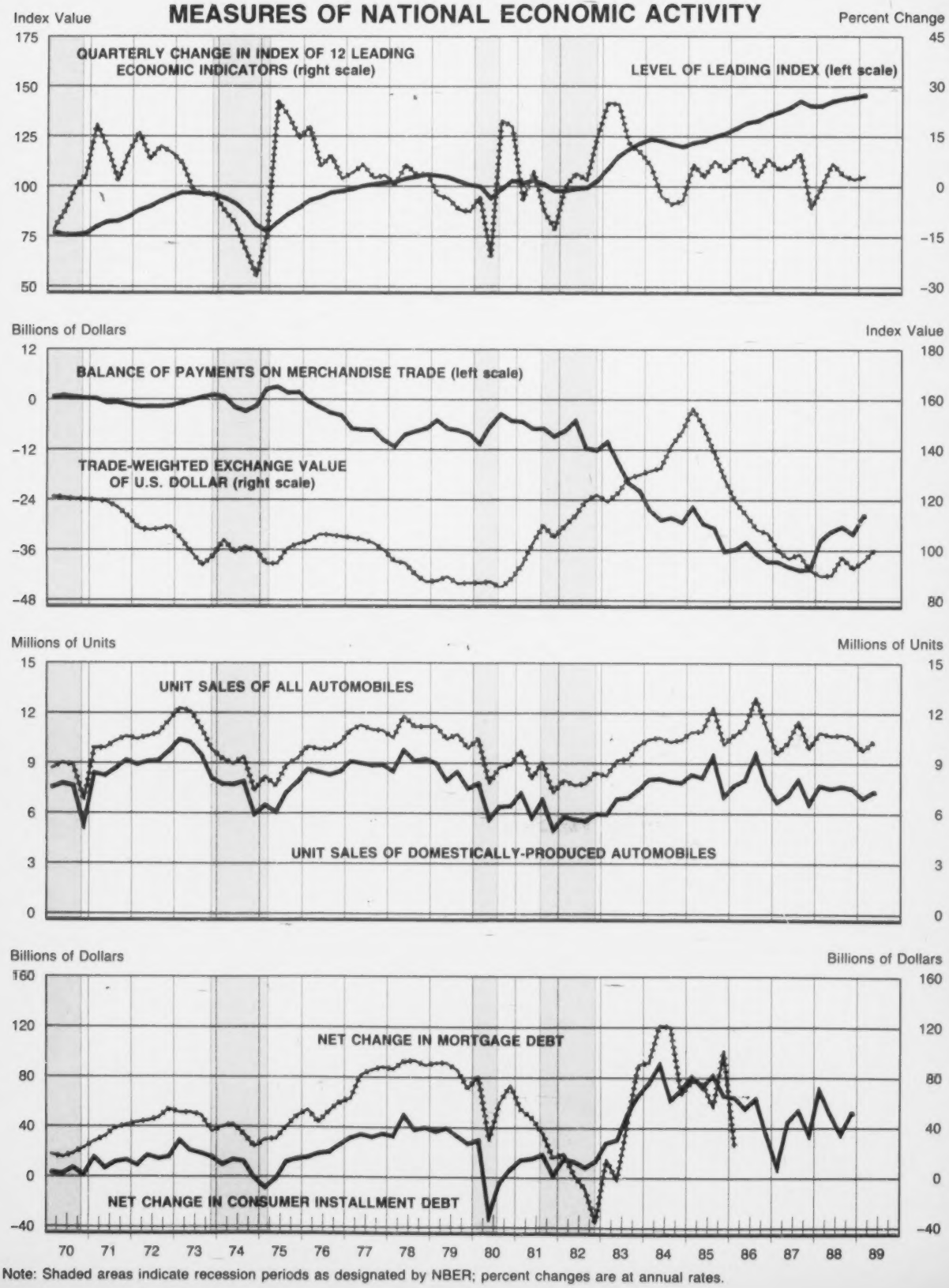
SERIES FROM THE CURRENT-DOLLAR GNP ACCOUNTS													
ECONOMIC INDICATOR	Quarterly Data										Annual Data		
	1986:4	1987:1	1987:2	1987:3	1987:4	1988:1	1988:2	1988:3	1988:4	1989:1	1986	1987	1988
GROSS NATIONAL PRODUCT	4,304.6	4,391.8	4,484.2	4,568.0	4,662.8	4,724.5	4,823.8	4,909.0	4,999.7	5,105.0	4,240.3	4,526.7	4,864.3
PERSONAL CONSUMPTION EXPENDITURES	2,876.0	2,921.7	2,992.2	3,058.2	3,076.3	3,128.1	3,194.6	3,261.2	3,326.4	3,377.2	2,807.5	3,012.1	3,227.5
GROSS PRIVATE DOMESTIC INVESTMENT	656.4	685.5	698.5	702.8	764.9	763.4	758.1	772.5	772.0	793.6	666.0	712.9	766.5
NET EXPORTS	−114.3	−119.1	−122.2	−125.2	−125.7	−112.1	−90.4	−80.0	−96.1	−77.5	−104.4	−123.0	−94.7
GOVERNMENT PURCHASES	886.5	903.8	915.7	932.2	947.3	945.2	961.6	955.3	997.5	1,011.8	871.2	924.8	964.9
DISPOSABLE PERSONAL INCOME	3,064.7	3,143.9	3,154.1	3,224.9	3,315.8	3,375.6	3,421.5	3,507.5	3,582.5	3,696.0	3,019.6	3,209.7	3,471.8
PERSONAL SAVING RATE (percent of disposable income)	3.2	4.2	2.2	2.3	4.3	4.4	3.7	4.2	4.3	5.8	4.0	3.3	4.1

Note: (1) All data are at annual rates and in billions of current dollars unless otherwise indicated. (2) To facilitate comparison and evaluation of forecasts, both actual data, released in May, and projected data, released by ASA-NBER in March, are displayed for first quarter 1989.

Sources: Projections: American Statistical Association – National Bureau of Economic Research panel of forecasters.
Actual Data: U.S. Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

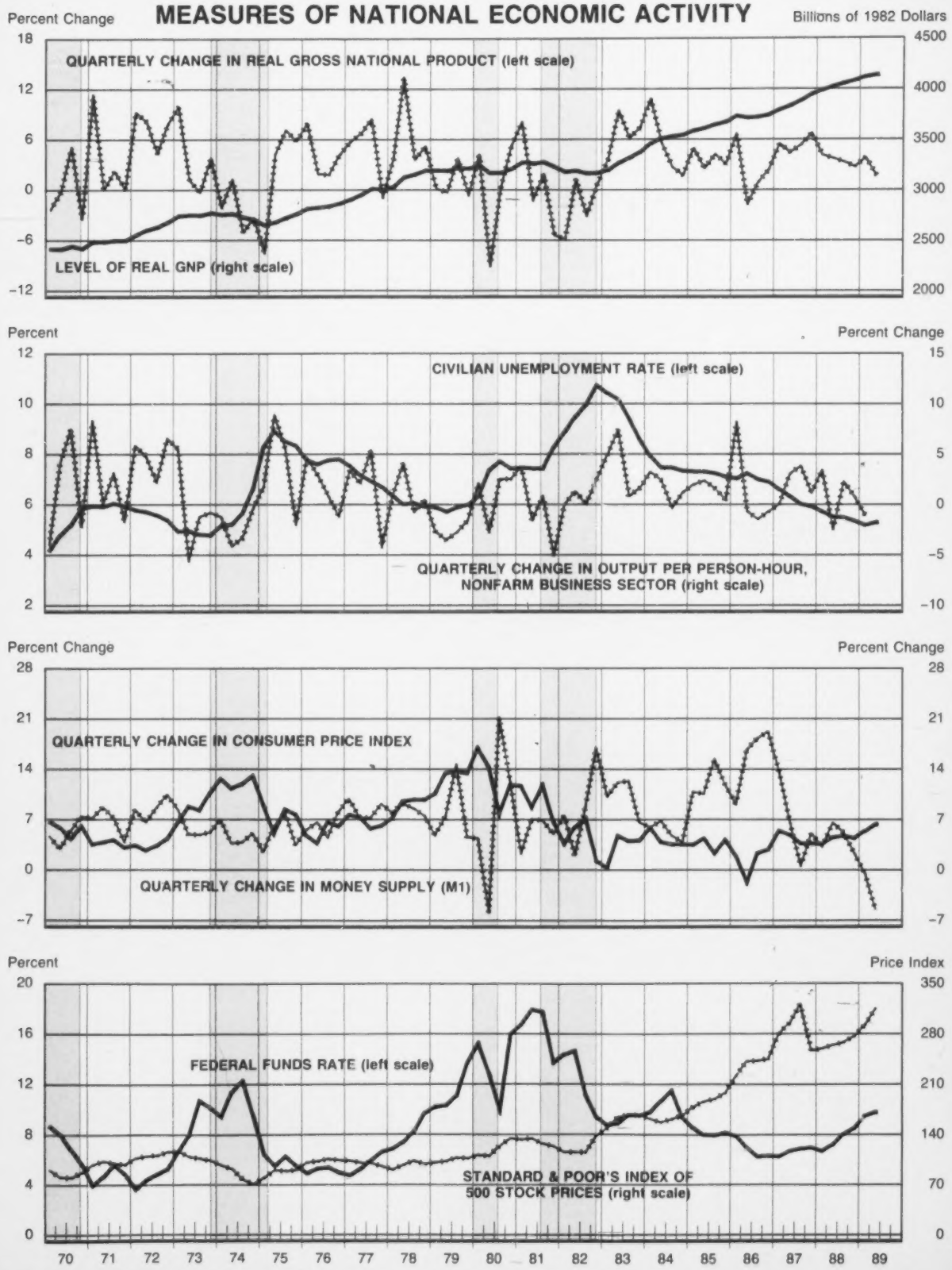
*Substantial revision of the data for series marked with an asterisk has occurred since the last printing.

MEASURES OF NATIONAL ECONOMIC ACTIVITY



Note: Shaded areas indicate recession periods as designated by NBER; percent changes are at annual rates.

MEASURES OF NATIONAL ECONOMIC ACTIVITY



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